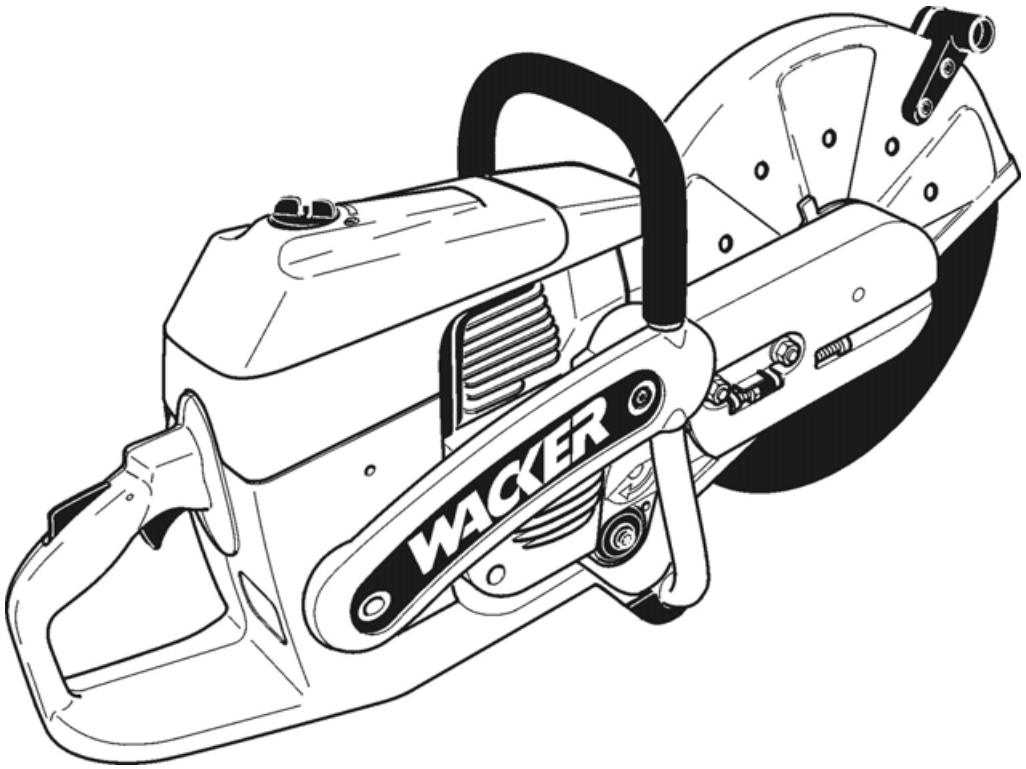
BTS 930L3
BTS 935L3
BTS 1030L3
BTS 1035L3

Repair Manual



Item number 0208118

Edition 03/06

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1 Foreword

In the interest of your own safety and to prevent accidents, you should carefully read through the safety instructions, familiarize yourself with them, and observe them at all times.

The safety of the operator was one of the most important aspects taken into consideration when this machine was designed. Nevertheless, improper use or incorrect maintenance can pose a risk. Please operate and maintain your Wacker machine in accordance with the instructions in the operator's manual. Your reward will be troublefree operation and a high degree of availability.

Defective components should be replaced immediately!

If you have any questions regarding operation or maintenance, please contact your Wacker representative.

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We expressly reserve the right to make technical modifications - even without special notice - which aim at further improving our machines or their safety standards.

1 Foreword

2 Safety instructions

2.1 Proper use

1. Cut-off saw
   - The cut-off saw must only be used outdoors for cutting/cutting to length suitable materials with the cutting disc approved for the unit.
2. Non-approved work methods:
   - The cutting discs of the cut-off saw must not be used as a grinding tool (removing material with the side surface of the cutting disc). This may cause the disc to break! It is prohibited to attach saw blades, knives or brushes to the cut-off saw.
3. Non-approved operators:
   - Persons unfamiliar with the operator's manual, children, juveniles as well as persons under the influence of alcohol, drugs or medication must not attempt to operate the unit.

2.2 General notes

Note: This repair manual is not intended to replace the operator's manual.

- **To ensure safe handling, the operating person must read the operator's manual (even if that person is experienced in using a cut-off saw)**, to become familiar with the cut-off saw. Operators can endanger themselves and others if they are unaware or insufficiently informed about how to properly use the unit.

2.3 Fuel, Lubricants, and Coolants / Filling the tank

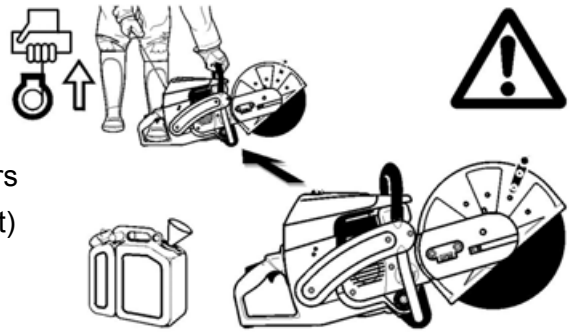
- Before you fill the tank, go to a a safe and level area. **It is prohibited to fill the tank on a scaffolding, a mound of material or similar elevated structure!**
- Turn off the motor before you fill the tank of the cut-off saw.

1

- Smoking and open fires are not permitted (1).
- Let the motor cool down before you fill the tank.
- Fuels can contain solvent-like substances. Avoid skin and eye contact with mineral products. When filling the tank, wear gloves (not work gloves). Change and wash your clothing more often. Do not inhale fuel vapors. Inhaling fuel vapors can damage your health.
- Do not spill fuel. If you have spilled fuel, clean the cut-off saw immediately. Avoid getting fuel on your clothing. Should you spill fuel on your clothing, change your clothes immediately.
- Make every effort to ensure that you do not allow fuel to soak into the ground (environmental protection). Use a suitable base.
- Do not fill the tank in closed rooms. Fuel vapors accumulate near the floor (danger of explosion).
- Tightly close the screw plug on the fuel tank.

3 meters
(10 feet)

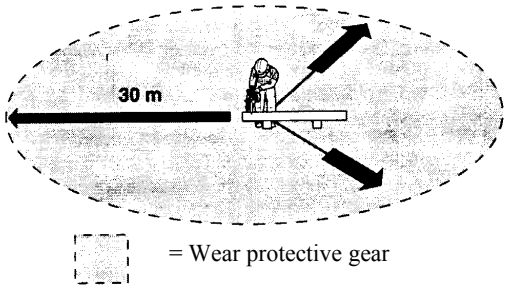
2



- To start the cut-off saw, go to another location (at least 3 meters (10 feet) away from the place where you filled the tank) (2), however not in the extended swing area (direction of flying sparks) of the cutting disc.
- Fuels cannot be stored indefinitely. Purchase only enough fuel as you can possibly use in the foreseeable future.
- When preparing the correct gasoline/oil mixing ratio, first always pour oil into the mixing container and then the gasoline.
- Transport and store fuel only in approved and specially marked canisters.
- Do not allow children near the fuel.

2.4 Starting up

- **Do not work alone; someone must be nearby in case of an emergency** (within calling distance).
- When using cut-off saws in residential areas, please observe the local noise regulations.
- **Do not use the cut-off saw near combustible materials or explosive gases. There is a risk of sparking**.



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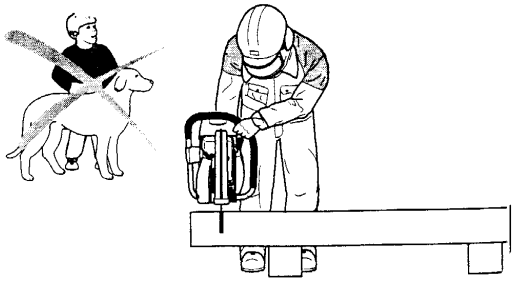
- Ensure that persons (for example those assisting you) within a range of 30 m (100 feet) also wear protective gear (see "Personal Protective Gear") (3). Children or other persons must keep a distance of at least 30 m (100 feet) from the work area of the cut-off saw. Be aware of any animals in the vicinity (4).



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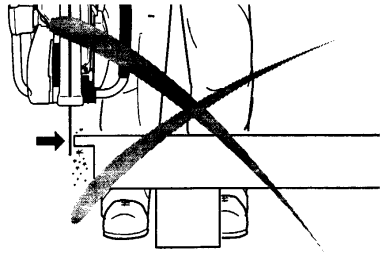
- Before you start to work with the cut-off saw, check to see that is in proper working order and in a safe operating condition!
- In particular, inspect the condition of the cutting disc (replace immediately if the disc is cracked, bent or otherwise damaged). Check that the disc is properly mounted, the protective hood is locked in place, the belt guard is firmly attached, the V-belt is properly tightened, the throttle lever moves unhindered and functions correctly, the handles are clean and dry and the multifunction switch works.
- Do not start the cut-off saw until you have completely assembled and tested it in operation. The cut-off saw must only be operated when it is completely assembled!

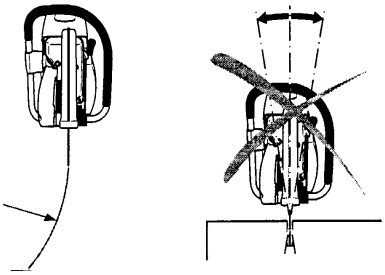
2.5 Cutting discs

- The protective hood must always be attached. Change the cutting disc only when the motor has been turned off!
- If you are using diamond-edged cutting discs, make sure you observe the attached rotational direction mark.



5

- Cutting discs are only designed to cut materials on their edges. Never use the side surfaces for grinding purposes as this can break the disc (5)!



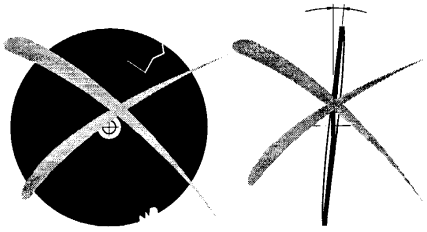
6

Note: It is prohibited to change the direction (a radius of 5 m (16 feet) or less), apply lateral pressure or tilt the cut-off saw while you are cutting (6)!

- Cutting discs must only be used to cut materials they were designed for. Depending on the material you wish to cut (metal or concrete), you must select the proper disc type.
- The center hole of the cutting disc must fit exactly onto the shaft. If the center hole is larger, you must use an intermediate ring as an adapter.

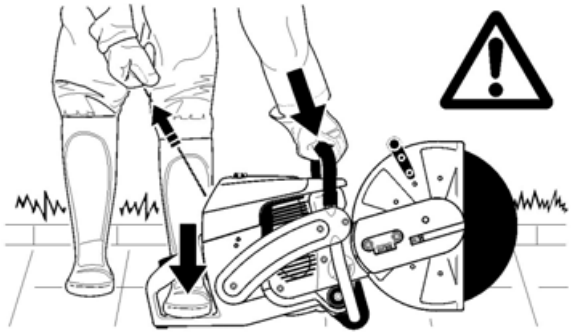
- The cutting disc must be approved for freehand cutting with a 350 mm (14") cutting disc diameter up to 4370 rpm or 80 m/s (260 ft./sec) or with a 300 mm (12") cutting disc diameter up to 5100 rpm or 80 m/s (260 ft./sec). Use only cutting discs that comply with EN 12413, EN 13236 or with the BGV D 12.

7



- The cutting disc must be completely undamaged (7). Test it by performing a sound test with a piece of wood.
- Always tighten the cutting disc to 30 Nm, otherwise you may distort the cutting disc.
- Before starting, the operator must stand at safe distance away from the cut-off saw.

8



- Start the cut-off saw only as described in the operator's manual (8) Always set your left foot into the handle and firmly hold the bow handle grip handle by using your thumb. Starting the unit in any other way is not permitted.
- When you start up the machine, support it well and hold it firmly. The cutting disc must be freestanding.
- A new cutting disc must be tested before you cut with it by running it at least 60 seconds at the specified maximum speed. Ensure that no one is in the extended swing area of the cutting disc.

- **When operating the cut-off saw, hold it firmly with both hands.** The right hand on the rear handle, and the left hand on the bow handle grip. Hold the grips firmly using your thumbs.

CAUTION
When you release the throttle lever, the cutting disc will continue to run briefly (afterrun)

- Always ensure that you are standing in a secure position.
- Hold the cut-off saw in such a way that you cannot inhale the exhaust fumes. Do not work in closed rooms or in deep trenches (danger of poisoning through exhaust fumes).
- If you notice any changes in the way the unit operates, turn off the motor immediately.

9

*Maintenance
*Filling the tank
*Changing the cutting disc
*Remounting the cutting attachment
*Taking a break
*Transport

- **You must turn off the motor before you check the V-belt tension, retighten the belt, change the cutting disc, remount the cutting attachment** (outer or center position) **and eliminate malfunctions** (9).
- If you hear or feel a change in the way the unit is cutting, turn off the motor immediately and check the cutting disc.
- During breaks and after you finish work, turn off the cut-off saw and set it down so that the cutting disc is freestanding and cannot endanger anyone.
- Do not lay the hot cutting disc on dry grass or onto combustible objects. The muffler radiates an enormous amount of heat (danger of fire).
- **CAUTION:** After a wet cutting procedure, first shut off the stream of water and then let the cutting disc run another 30 seconds so that it can spin off the remaining water. This prevents corrosion.

2.6 Kickback **and pulling motion**

- When working with the cut-off saw, it can kick back or suddenly pull you. Please see the relevant pages in the operator's manual.

2.7 Maintenance

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- **Before you carry out any maintenance work, always turn off the cut-off saw** (10) **and pull off the spark plug connector!**
- Check that the cut-off saw is in a safe operating condition before you start work. Make sure that the cutting disc has been attached according to instructions. Alos make sure that the cutting disc is undamaged and suited for the application at hand.
- While operating the machine, try to produce as little noise and exhaust fumes as possible. Check the carburetor setting.
- Clean the cut-off saw regularly.
- Check the tank cap regularly to make sure it is on tightly.
- Observe the accident prevention regulations set forth by the professional liability insurance association. Never attempt to modify the cut-off saw! Doing so will endanger your safety!

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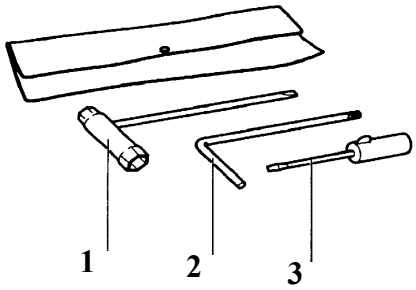
- Maintenance and repair work must be carried out only to the extent detailed in this repair manual. All other procedures must be performed by Wacker Service.
- Use only original Wacker replacement parts.
- If you use non-original Wacker replacement parts, accessories and cutting discs, you will increase you changes of having an accident. Any accidents or damage that occur with non-original Wacker parts will invalidate your warranty.

3 Starting up

CAUTION
Before working on the cut-off saw, always turn off the engine, pull off the spark plug connector and wear protective gloves!

CAUTION
The cut-off saw must not be started until it has been completely assembled and tested!

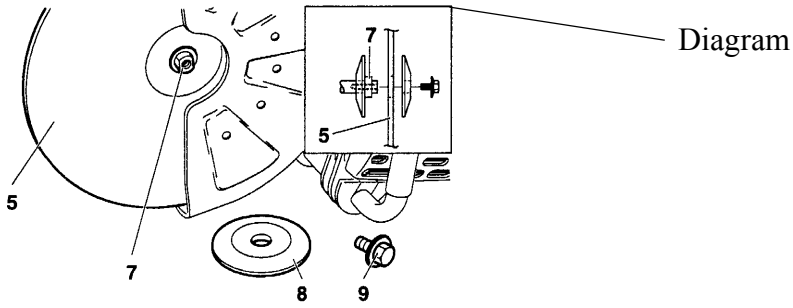
- Always use the assembly tools included in delivery for the following procedures:



1. Combination wrench 13/19 mm
2. Offset screwdriver
3. Screwdriver for setting the carburetor

- Set the cut-off saw onto a sturdy base and carry out the following assembly steps:

3.1 Attaching the cutting disc

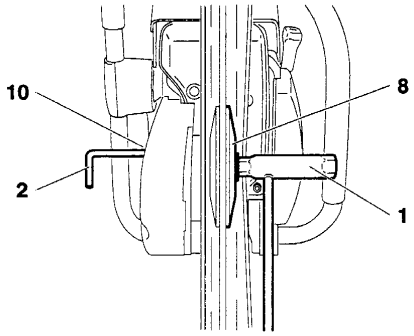


Note: Check the cutting disc for signs of damage. See the safety instructions in the operator's manual.

- Unscrew the screw (9) and remove the thrust washer (8). Set the cutting disc (5) onto the shaft (7).

Note: The center hole of the cutting disc must fit exactly onto the shaft. You must use an adapter ring if the center hole is larger.

WARNING
If you are using diamond-edged cutting discs, make sure you observe the attached rotational direction mark!



- Set the thrust washer (8) onto the shaft, screw in together with the screw (9) and tighten by hand.
- Turn the cutting disc slowly until you can see the locking bore of the V-belt pulley bolt through the gear arm hole (10).
- Press the offset screwdriver (2) all the way in. The shaft is now blocked.
- Firmly tighten the screw with the combination wrench (1).

Note: Firmly tighten the screw to 30 ± 2 Nm (22 ± 1.5 ft.lbs.), otherwise the cutting disc may slip while cutting.

3.2 Fuel, lubricants, and coolants

DANGER
The unit uses mineral oil products (gasoline and oil)!
Take special precautions when handling gasoline.
Smoking and open fires are not permitted (danger of explosion).

Fuel		50:1
1,000 cm3	(1 liter)	20 cm3
5,000 cm3	(5 liter)	100 cm3
10,000 cm3	(10 liters)	200 cm3
1.0 Us-gal.		2.5 floz.
2.5 Us-gal.		6.4 floz.
5.0 Us-gal.		12.8 floz.

Preparing the correct gasoline/oil mixing ratio:
50:1 Mix 50 parts of fuel with one part of oil.

Fuel mixture

- The cut-off saw engine is a high-performance two-cycle engine. It is operated with a mixture of fuel and two-cycle motor oil.
- The engine is designed for use with normal leadfree gasoline with a minimum octane rating of 91 ROZ. If this octane is not available, you may also use fuel of a higher octane rating. This will not damage your engine.

- For optimum engine performance and for the sake of your own health and the environment, always use leadfree fuel!
- The two-cycle motor oil must meet the specification API TC, JASO FC or ISO L-EGD.

Note: To prepare the fuel-oil mixture, always premix the prescribed amount of oil volume with half of the fuel volume and then add the remaining amount of fuel. Before you fill the tank, always shake the finished mixture well.

CAUTION
Open the cap of the fuel tank carefully since there may be pressure present!

- It is not a good idea to increase the oil percentage of the two-cycle mixture for beyond the specified mixing ratio for any reason. This will increase the amount of combustion residue which pollutes the environment and also clogs the exhaust port in the cylinder and the muffler. Furthermore, this also increases fuel consumption and reduces engine performance.

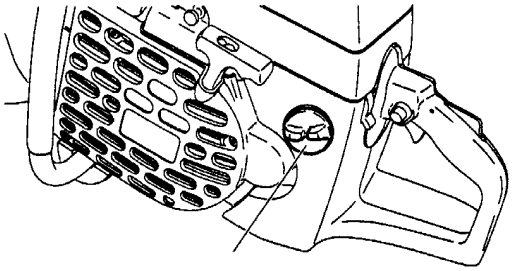
3.3 Storing fuel

- Fuels cannot be stored indefinitely. Purchase only enough fuel as you can possibly use in 4 weeks.
- Store fuel only in approved and specially marked containers.

AVOID CONTACT WITH SKIN AND EYES!

- Mineral products and oils scour your skin. If used repeatedly and over time, they will dry out your skin. This could develop into one of various skin diseases. In addition, allergic reactions are also possible.
- Oil in your eyes can cause irritations. If you get oil into your eye, rinse it out immediately with clean water.
  If irritation continues, consult a physician immediately!

3.4 Filling the tank

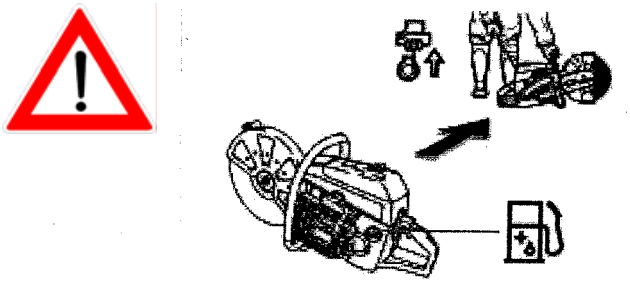


Fuel mixture

Note: Strictly observe the safety instructions in the operator's manual!

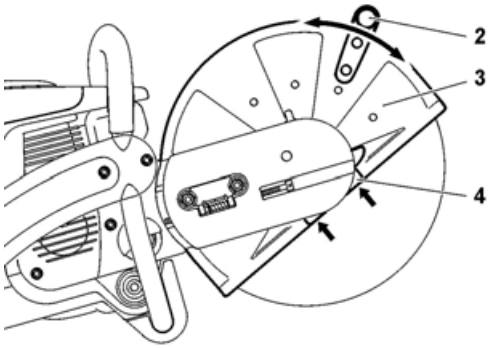
- Fuels must be handled carefully and prudently.
- Only when the engine is turned off and has cooled down!
- Clean the filling area so that no dirt can get into the tank.
- Set the machine on its side on a flat base.
- Screw off the tank cap and pour in the fuel mixture. Pour it in carefully to avoid spilling the fuel mixture.
- Tightly screw the tank cap back on.
- Clean the tank cap and surrounding area after you are finished! Never start or operate the unit at the location where you filled the tank! Should you spill fuel on your clothing, change your clothes immediately.

3.5 Starting the engine



Note: Strictly observe the safety instructions in the operator's manual.

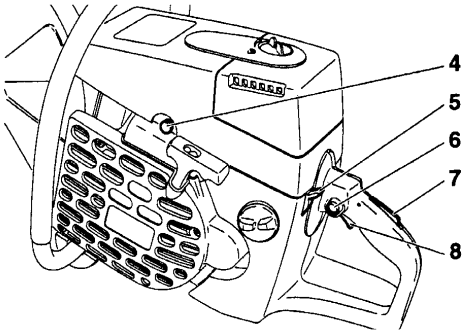
- The cut-off saw must not be started until it has been completely assembled and tested!
- Take it at least 3 m (10 feet) away from the place where you filled the tank!
- Stand squarely and set the cut-off saw onto the ground so that the cutting attachment is freestanding.



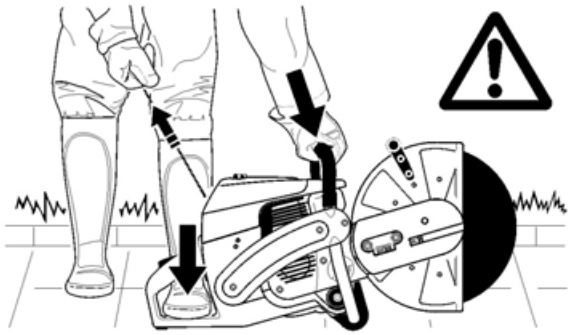
- Move the protective hood (3) to the best position for the application at hand (see figure).
- Grab the handle (2). The protective hood (3) can be swivelled within the stop-mounts in both arrow directions.

CAUTION
Make absolutely sure that the straight edge of the stop plate (4) is parallel to the edge of the protective hood (see arrows).
If this is not the case, please take your unit to the shop.

3.6 Cold start



- Press the multifunction switch (5) upward (choke position).
- Put your hand around the handle (safety switch (7) is actuated by the palm of your hand)
- Press the throttle lever (8) all the way through and hold it.
- Press the lock button (6) and release the throttle lever (8) (throttle lever is locked in place by the lock button in the half-gas position). Press in the start valve (4).



- Put your hand around the bow handle grip and hold it firmly while you press the cut-off saw against the ground.
- Place your left foot into the rear hand guard.
- Pull out the starter rope slowly until you feel resistance (the piston is located before the top dead center).
- Now continue pulling quickly with force until you hear the engine start.

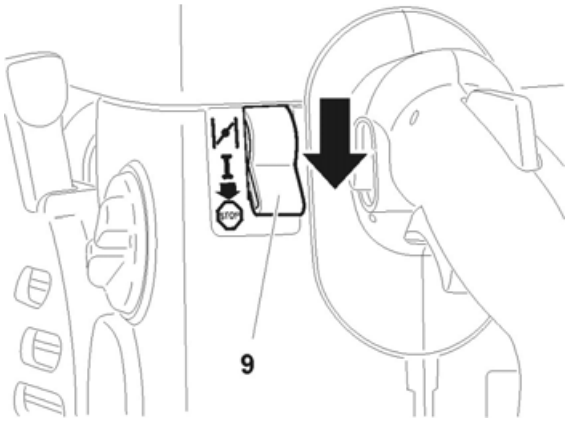
CAUTION
Do not pull out the starter rope more than 50 cm (20") and let it rewind slowly by hand, not letting it go.

- Press the multifunction switch (5) to the "I" position.
- Pull the starter rope again until the engine runs.
- Once the engine is running, tip the throttle lever (8) so that the lock button (6) snaps out and the engine idles.

3.7 Warm start

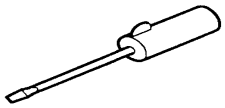
- As described under cold start, however without pressing the multifunction switch (5) in the choke position.

3.8 Turning off the engine



- Press the multifunction switch (9) down to the "Stop" position.

3.9 Setting the carburetor



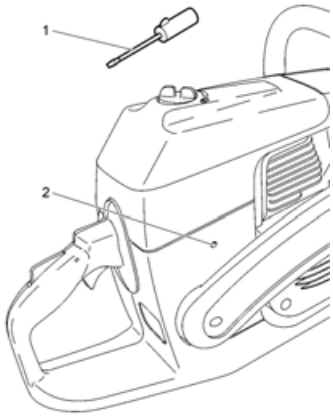
Set the idle speed with a flathead screwdriver (head width 4 mm/0.16").

The screwdriver shown has a moulded nose that can be used as a setting tool.

Note: The cut-off saws are equipped with a speed limiting electronic ignition. In addition, the carburetor has a fixed nozzle that cannot be adjusted.

- The idle speed has been factory set to approx. 2500 rpm; however, the run-in procedure of a new machine requires a slight readjustment of the idle speed.

- The following steps are required to correctly set the idle speed:
- **Start the engine and let it warm up** (approx. 3 - 5 minutes).



- Make the carburetor setting with the screwdriver that was included in delivery.
- Readjust the idle speed
- If the cutting disc rotates when the engine is running, screw the stop screw "S" (2) for the choke outward until the cutting disc no longer rotates. If the engine stops when idling, turn the screw back in somewhat.

Turn off the engine

4 Technical data

	Unit	BTS 930L3	BTS 935L3	BTS 1030L3	BTS 1035L3
Item no.		0008987... 0610073...	0008988... 0610074...	0008989... 0610075...	0008990... 0610076
Engine displacement	m³	64		73	
Bore	mm	47		50	
Stroke	mm	37			
Max. performance	kW	3.3		4.2	
Max. torque	Nm	4.0		5.0	
Idle speed	rpm	2,500			
Clutch engaging speed	rpm	3,800			
Limiting speed	rpm	9,350			
Nominal spindle speed	rpm	4,300			
Sound pressure level LpA eq according to EN 1454 1) 4)	dB(A)	97		99	
Sound power level	LWA	109 dB(A)		110 dB(A)	
Vibrational acceleration ah,w according to EN 1454 - Bow handle grip (idle/nominal spindle speed) - Handle (idle/nominal spindle speed)	m/s2	6/5 8/6		7/5 8/7	
Carburetor (diaphragm carburetor)		TILLOTSON HS-273 A			
Ignition system (with maximum rpm limitation)		Electronic			
Spark plug		NGK BPMR 7A / BOSCH WSR 6F / CHAMPION RCJ 6Y			
Spark plug air gap	mm	0.5			
Fuel consumption at max. capacity according to ISO 8893	l/h	2.1		2.7	
Special consumption at max. capacity according to ISO 8893	g/kWh	500			
Fuel tank capacity	l	1.1			

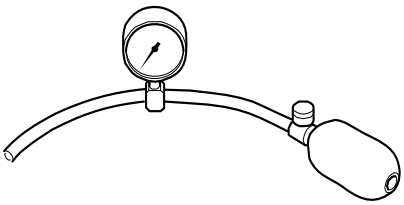
4 Technical data

	Unit	BTS 930L3	BTS 935L3	BTS 1030L3	BTS 1035L3
Gasoline/2-cycle oil mixing ratio 5)		50:1			
Cutting disc for max. 80 m/s 2)	mm	300/20.0/ 53)	350/25.4/ 53)	300/20.0/ 53)	350/25.4/ 5[3)]
Spindle diameter	mm	20.0	25.4	20.0	25.4
Weight of cut-off saw (empty tank, without cutting disc)	kg	10.0	10.2	10.0	10.2

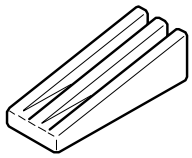
1) Data takes the operating states idle and top speed equally into consideration.
2) Peripheral speed at the highest engine speed.
3) Outer diameter/centre bore/thickness.
4) At the working area (operator's ear).
5) With 2-cycle motor oil of the specification API TC, JASO FC. or ISO L-EGD

5 Special tools

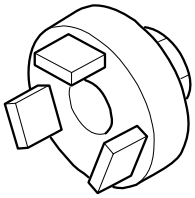
0068900



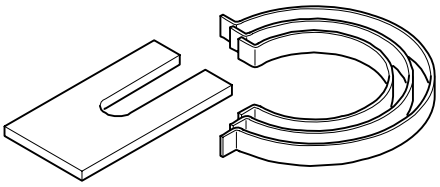
0079264



0117571



0117574



0117575

0128935

0128936

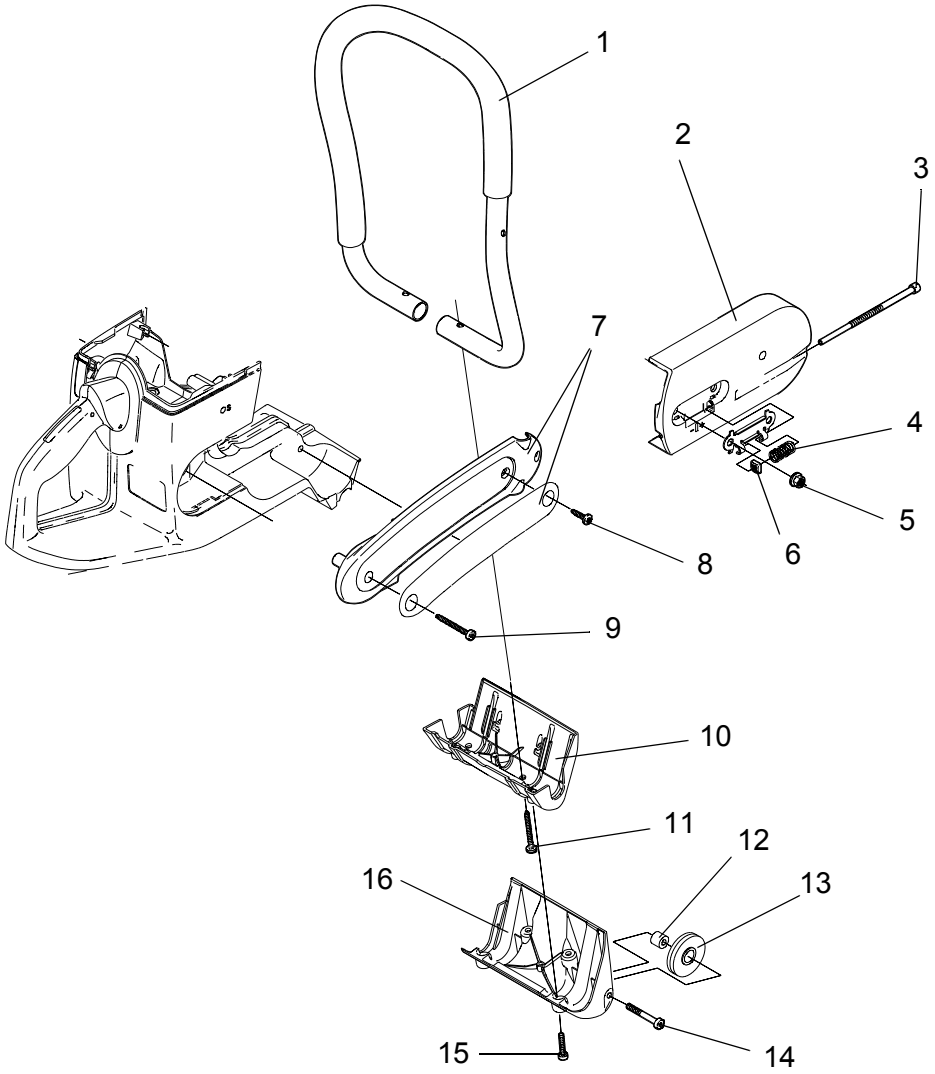
0128937

Item no.	Designation	Item no.	Designation
0068900	Magnet wheel puller	0117575	Piston ring band clamps
0079264	Pressure gauge tester	0128935	Insert for screws TX27 (152 long)
0117571	Piston stop wedge	0128936	Insert for screws TX27 (49 long)
0117574	Installation wrench	0128937	Connecting piece (3/8" square input socket)

5 Special tools

6 Disassembly

6.1 Cover/Handle



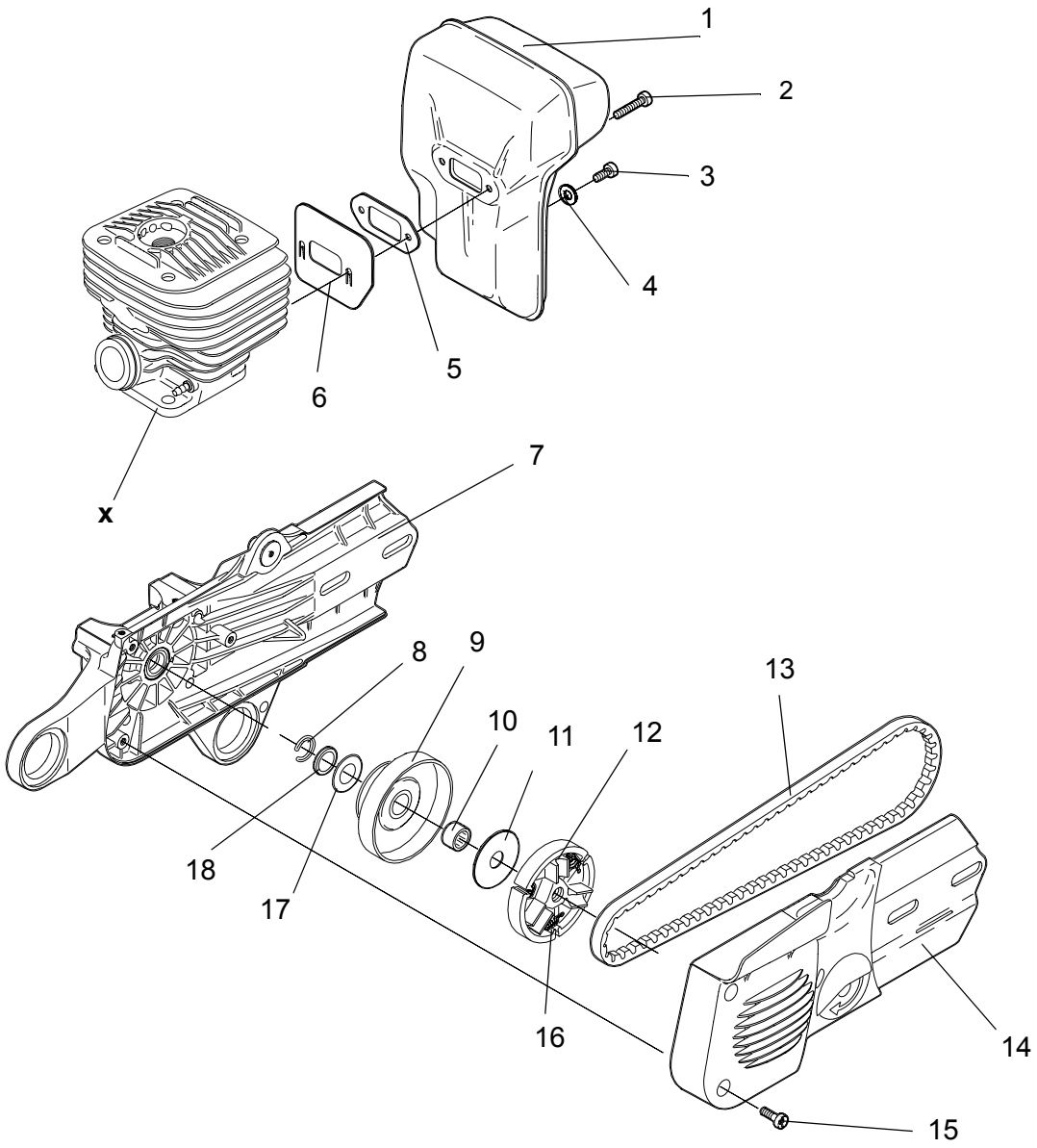
Item	Designation	Item	Designation	Item	Designation
1	Handle	7	Side brace	13	Pulley
2	Cover	8	Torx screw	14	Torx screw
3	Tension screw	9	Torx screw	15	Torx screw
4	Compression spring	10	Foot (standard)	16	Foot (with pulley, optional accessories)
5	Flanged nut	11	Torx screw		
6	Square nut	12	Bushing		

6 Disassembly

1. Unscrew the 3 screws (8,9) and take off the side brace (7) and handle (1).

2. Unscrew the Torx screws (11,15) and take off the foot (10 or 16).
3. Unscrew the Torx screw (14) only for item 16, dismantle the bushing (12) and take out the pulleys (13).
4. Loosen the flanged nut (5) and unscrew the tension screw (3) far enough so that the screw end does not make contact with the enclosure.
5. Unscrew the flanged nut (5) completely and take off the entire cover (2) with the fixing device (3,4,6).

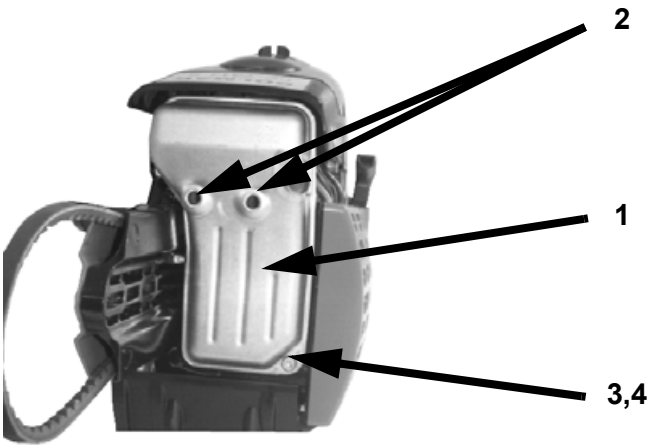
6.2 Clutch



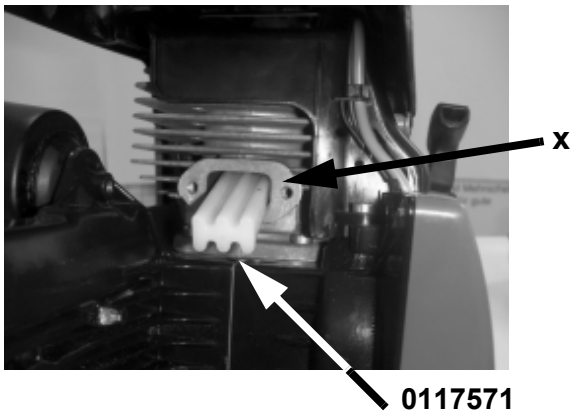
Item	Designation	Item	Designation	Item	Designation
1	Exhaust	7	Crankcase half (CS)	13	V-belt
2	Torx screw	8	Snap ring	14	Cover
3	Torx screw	9	Clutch drum	15	Torx screw
4	Spring washer	10	Needle sleeve	16	Tension spring
5	Seal	11	Guide disc	17	Disc
6	Guard	12	Clutch	18	Stopping ring

CS = Clutch side

1. Unscrew the Torx screws (15) out of the cover (14) and take off the cover (14).
2. Take off the V-belt (13).
3. Unscrew the Torx screws (2,3) with the spring washers (4) from the exhaust (1).

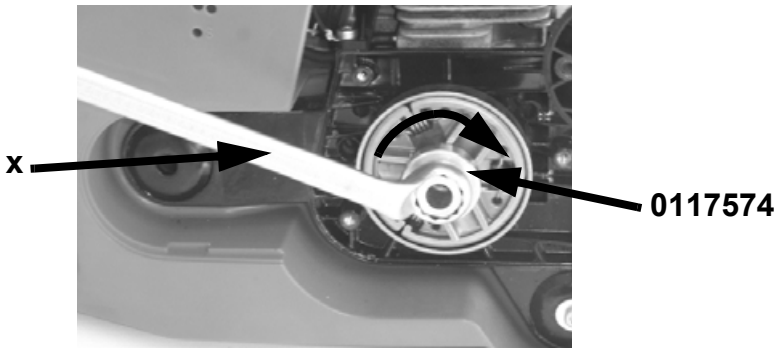


4. Take off the exhaust (1), seal (5) with guard (6).
5. To disassemble the clutch (12) and clutch drum (9), you must block the piston. To do this, slide the piston stop wedge (0117571) into the exhaust port of the cylinder (x).

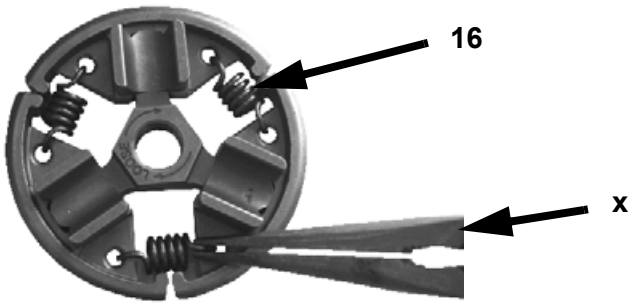


6. Loosen the clutch (12) with installation wrench (0117574) and a 19 mm ring wrench (x).

Note: Left-hand thread!



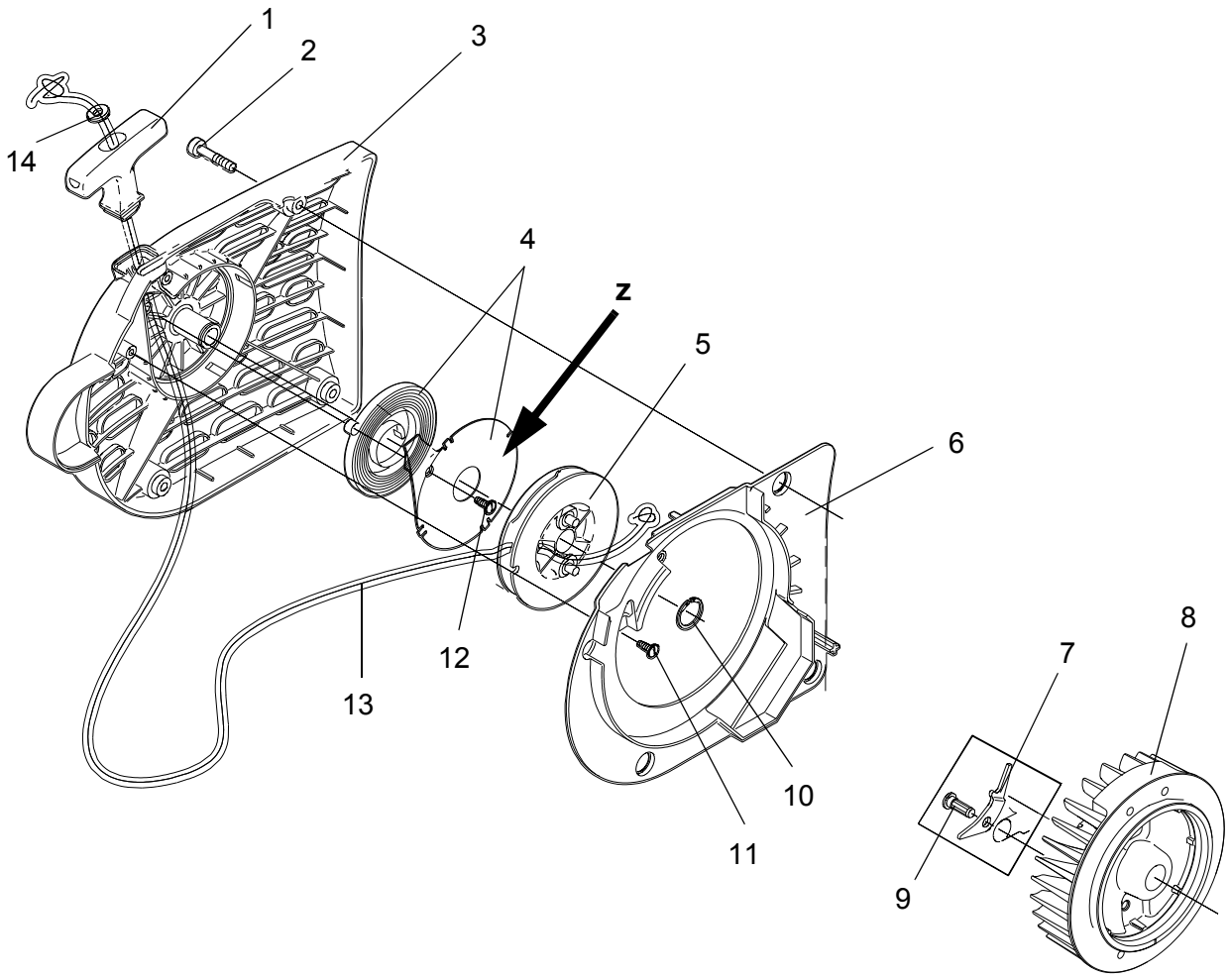
7. You can remove the tension springs (16) of the clutch (12) by using needle-nose pliers (x).



8. Take out the guide disc (11).
9. Press out the needle sleeve (10).
10. Remove the snap ring (8), take out the disc (17) and stopping ring (18).

6 Disassembly

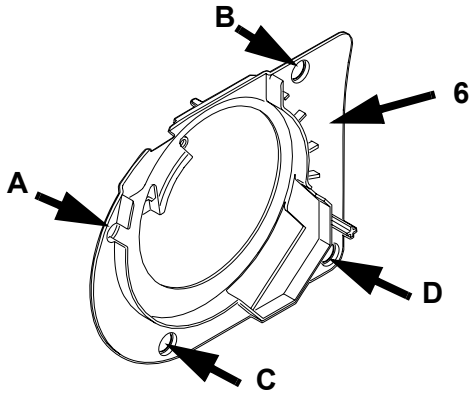
6.3 Recoil starter



Item	Designation	Item	Designation	Item	Designation
1	Starter handle	6	Air horn	11	Torx tapping screw
2	Torx screw	7	Starter ratchet	12	Torx tapping screw
3	Starter housing	8	Magneto flywheel	13	Starter rope
4	Return spring with enclosure (z)	9	Screw	14	Disc
5	Rope drum	10	V-ring		

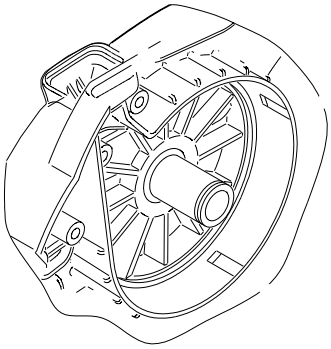
1. Unscrew the screws (2).
2. Take off the starter housing (3).
3. Unscrew the screws (11) and carefully separate the air horn (6) from the starter housing (3).

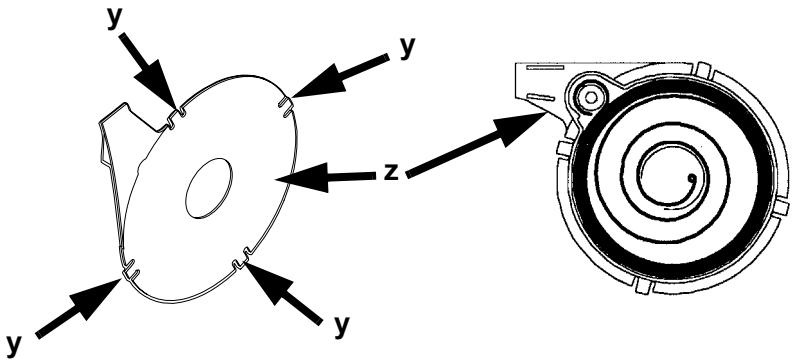
Note: Always proceed in the order (**A - B - C - D**).



4. Remove any leftover old rope (13). If needed, release tension on the rope drum.
5. Take off the V-belt (10) and pull off the rope drum (5). Unscrew the Torx tapping screw (12). Pry the return spring (4) evenly off the latches (y) from the starter housing (3) by using a screwdriver or similar tool.

Note: Be very careful in doing so.



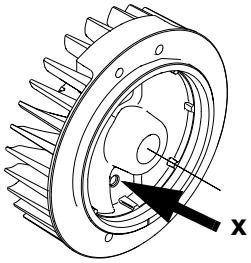


CAUTION
The return spring is under tension and can suddenly jump out of the housing! Always wear safety glasses and wear protective gloves when performing this procedure!

6. The replacement return spring is delivered already under tension in the housing (z).

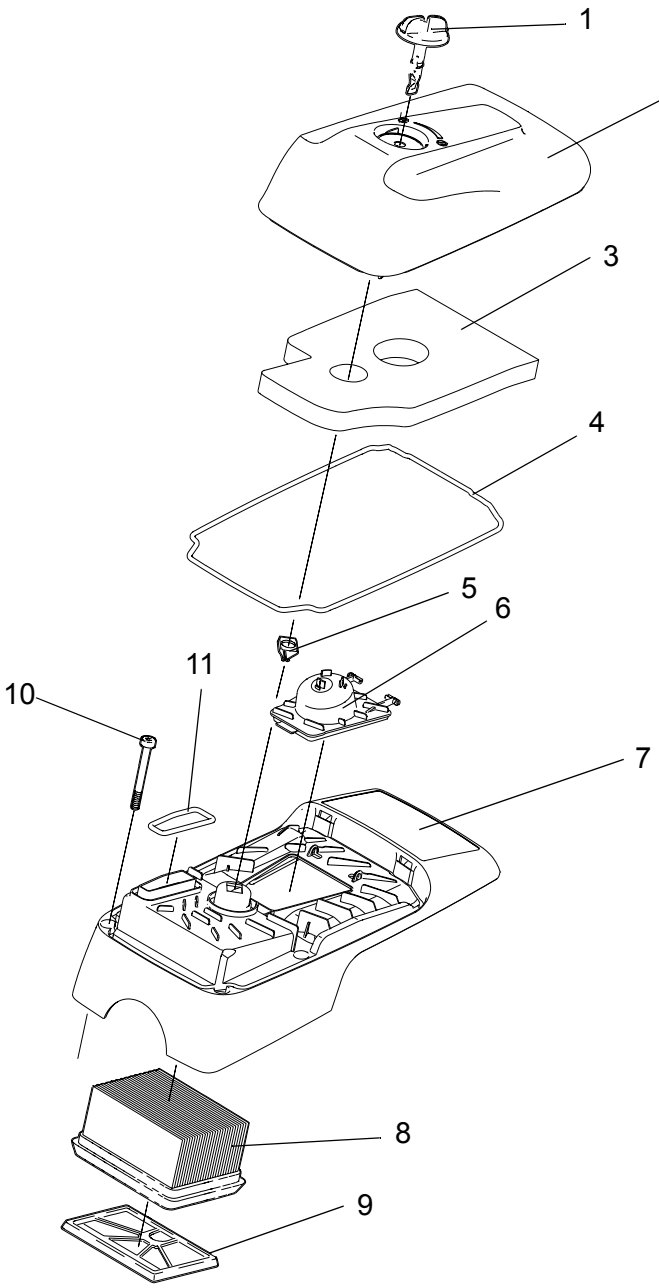
CAUTION
The spring can jump out. A released spring can be reinserted; see Chapter 8.7 "Assembling the recoil starter."

7. To change the starter ratchets (7), knock out the bolt (9) with a mandrel (x).



6 Disassembly

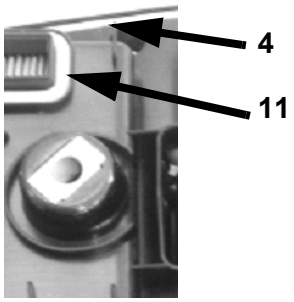
6.4 Filter cover/Filter



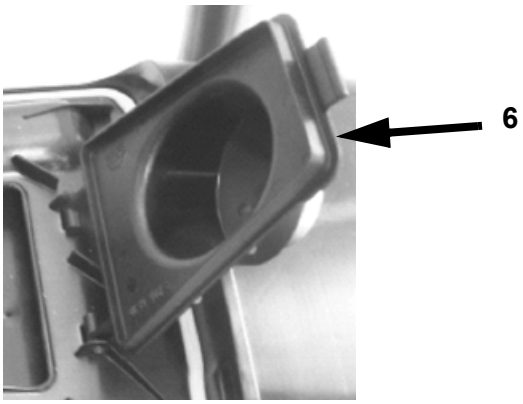
Item	Designation	Item	Designation	Item	Designation
1	Bayonet cap	5	Lower part of the plug	9	Internal filter
2	Filter cover	6	Spark plug cap	10	Torx screw
3	Prefilter	7	Hood	11	Gasket
4	Gasket	8	Air filter cartridge		

6 Disassembly

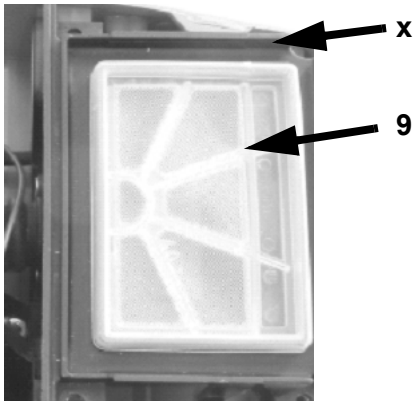
1. Open the bayonet cap (1) and take off the filter cover (2) with the prefilter (3).
2. Remove the seal rings (4,11).



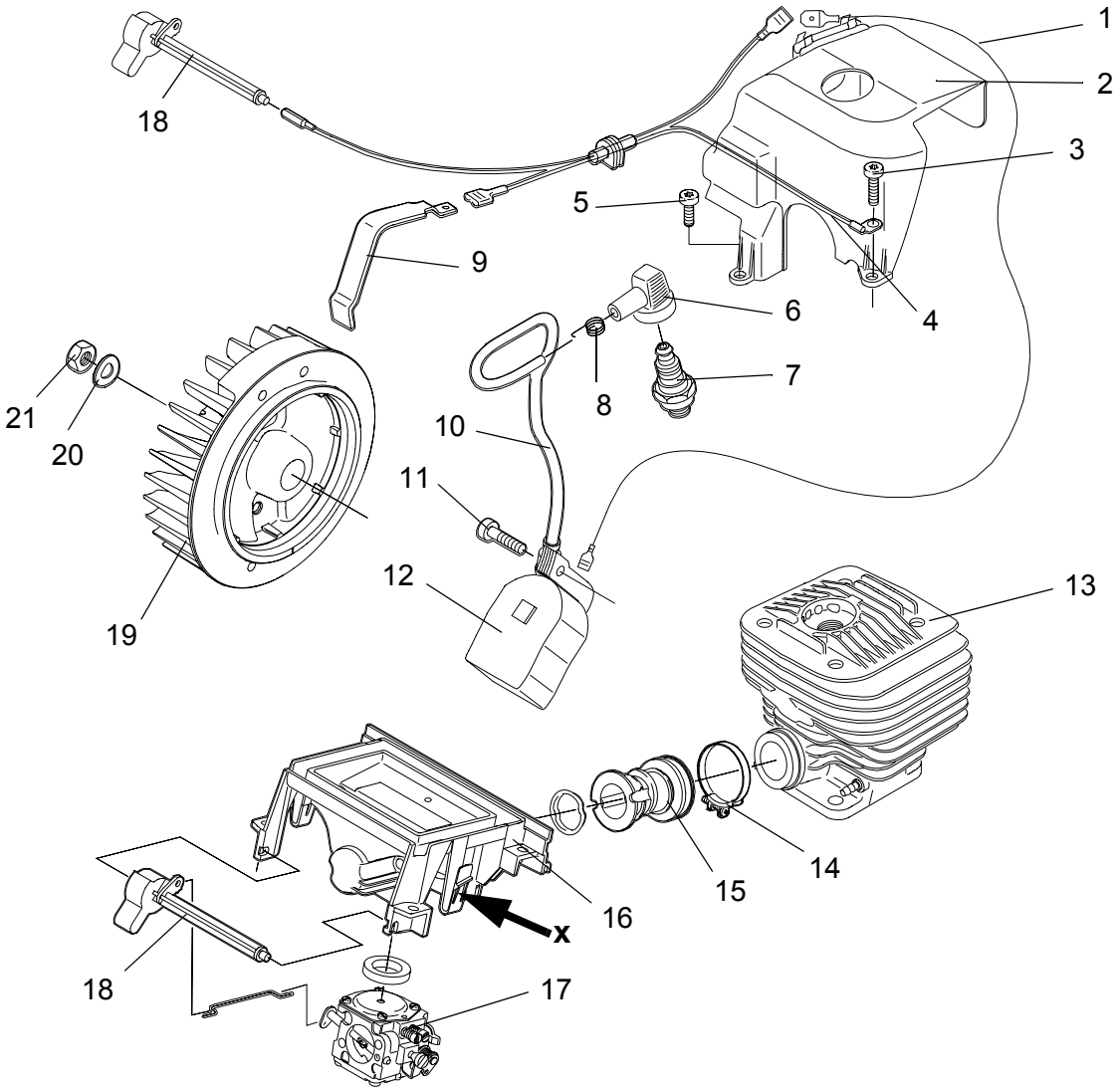
3. Detach the spark plug terminal cap (6).



4. Remove the lower part of the plug (5).
5. Unscrew the Torx screws (10) and take off the hood (7).
6. Take off the air filter cartridge (8).
7. Remove the internal filter (9) from the intake manifold (x).

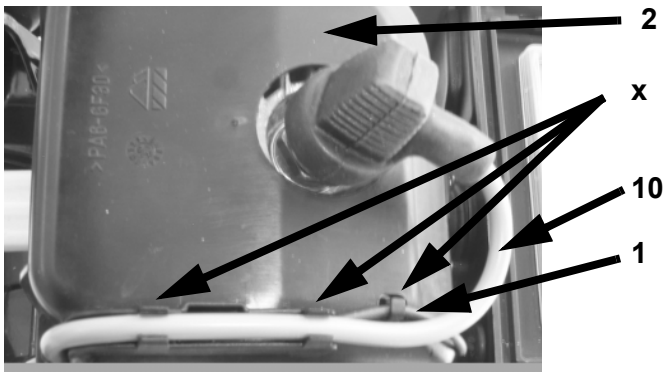


6.5 Ignition system module/intake manifold

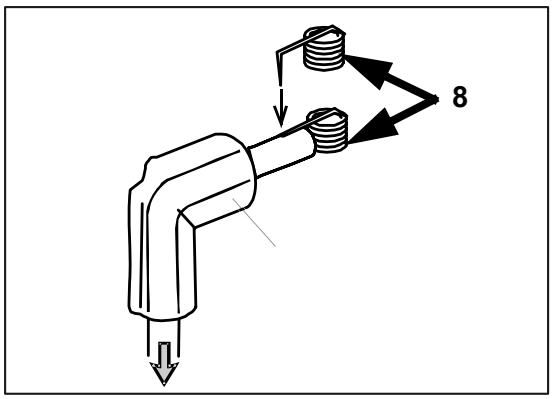


Item	Designation	Item	Designation	Item	Designation
1	Short circuit cable	9	Contact spring	17	Carburetor
2	Hood	10	Ignition cable	18	Choke shaft
3	Screw	11	Torx screw	19	Magneto flywheel
4	Ground cable	12	Magneto igniter	20	Spring washer
5	Screw	13	Cylinder	21	Hexagonal nut
6	Spark plug terminal cap	14	Hose clamp		
7	Spark plug	15	Suction hose		
8	Spring	16	Intake manifold		

1. Take the ignition cable and short circuit cable (10,1) out of the guides (x) of the hood (2).

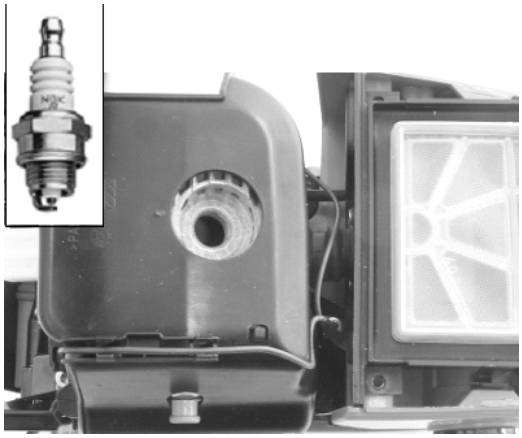


2. Pull off the spark plug terminal cap (6) from the spark plug (7).
3. Hold the spring (8) of the spark-plug connector (6) with needle-nose pliers and slide the rubber cap to the rear over the ignition cable (10).

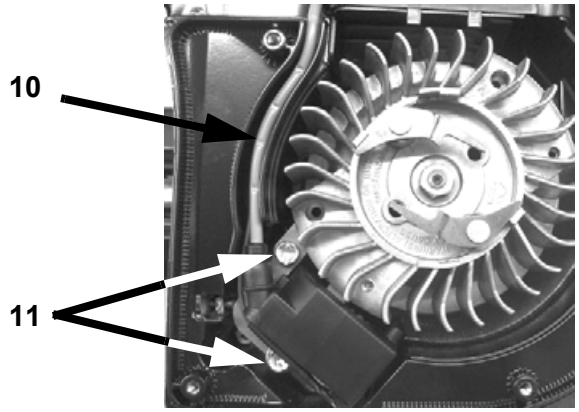


Note: Apply a small amount of grease to the ignition cable (10) to make it easier to detach and attach the spark plug connector (6).

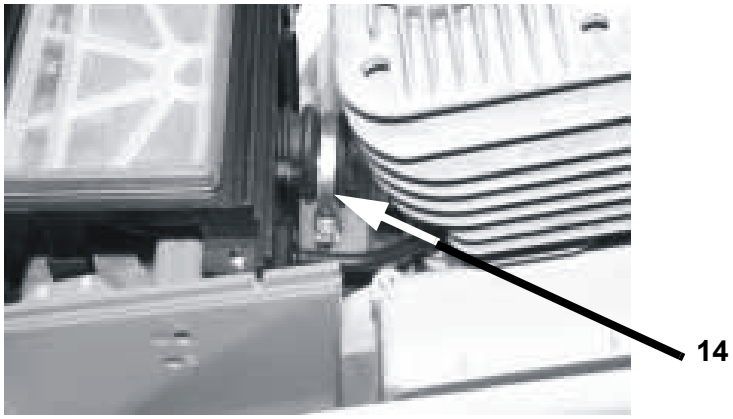
4. Remove the spark plug (7) with the combination wrench included in delivery.



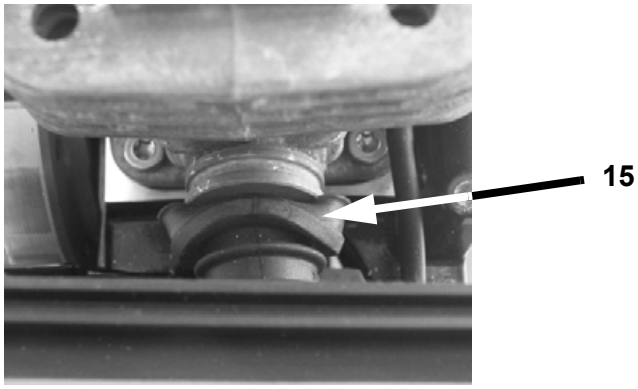
5. Unscrew the screws (3,5) and remove the hood (2).
6. The screw (5) also functions as the fastener for the ground cable.
7. Unscrew the Torx screws (11) from the magneto igniter (12), disconnect the ignition cable (10).
8. Release the short circuit cable (1) from the plug connection.



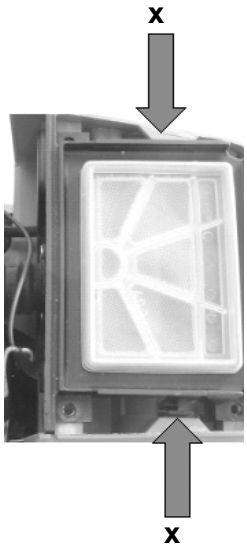
9. Release the hose clamp (14) from the suction hose.



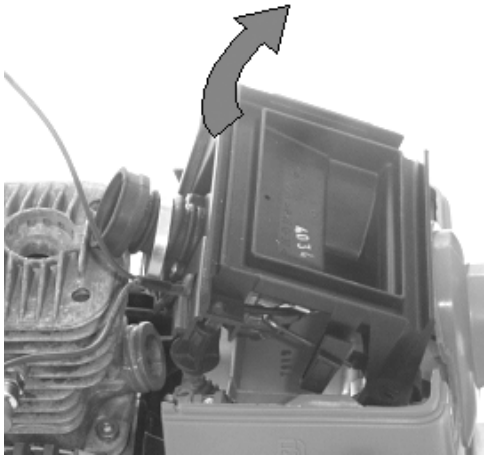
10. Pull off the suction hose (15) from the cylinder (13).



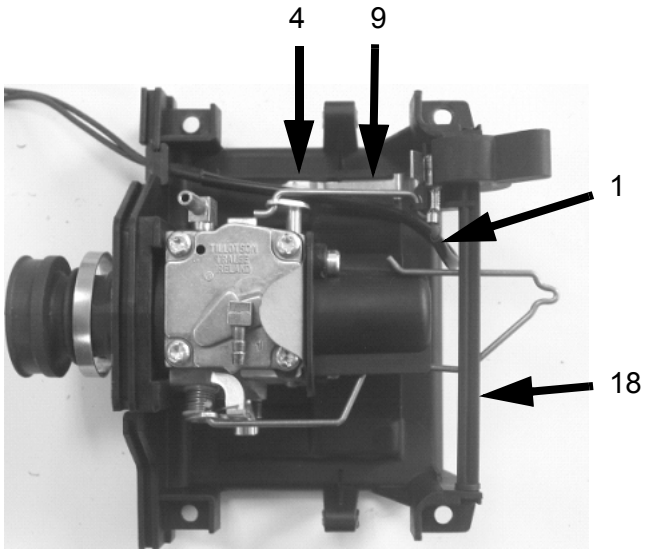
11. Lift the intake manifold (16) from the tank enclosure by pressing the lever (x).



12. Lift the intake manifold (16) with carburetor (17) and choke shaft (18) on the cylinder side and take it out of the tank enclosure.



13. Pull the short circuit cable (1) out of the seat in the choke shaft (18).
14. Release the ground cable (4) from the plug connection of the contact spring (9).

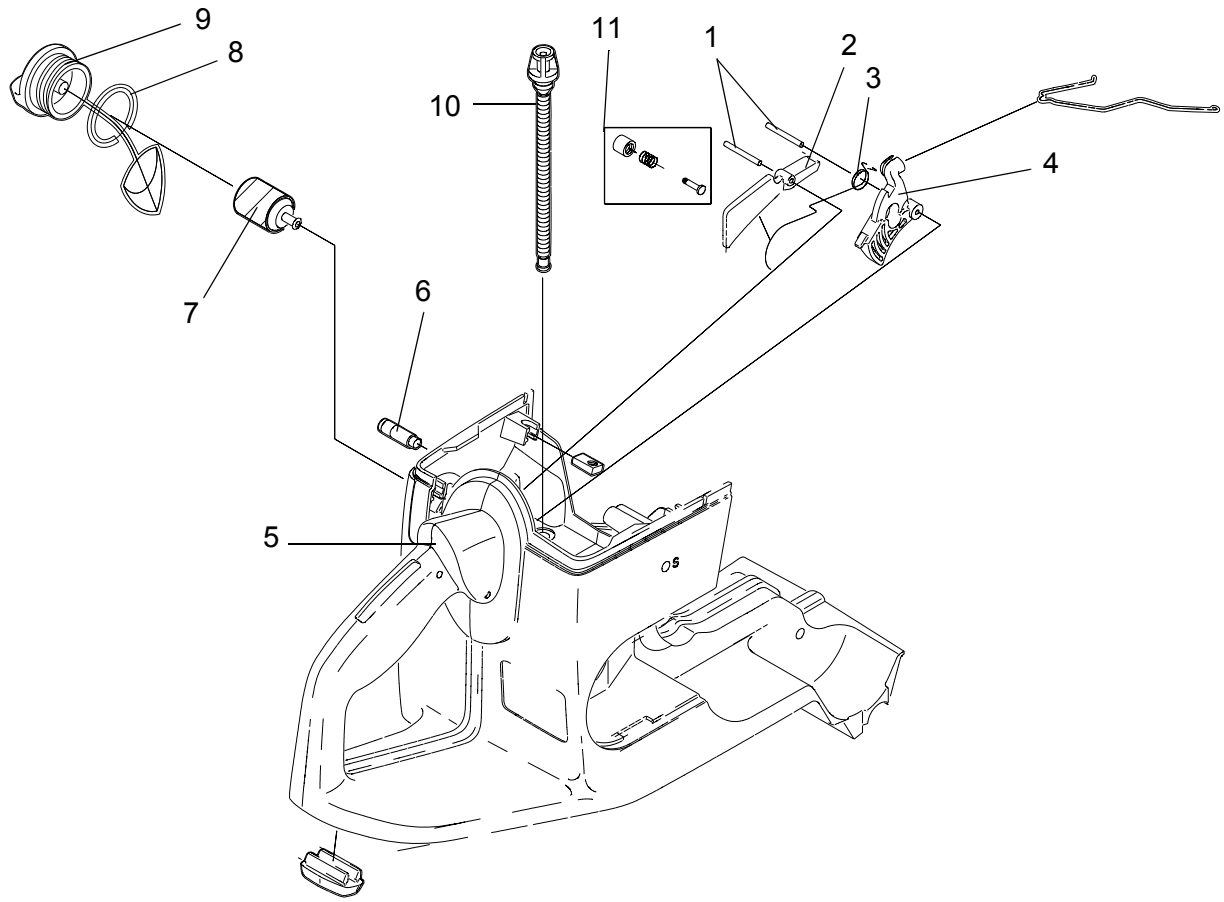


15. Block the piston with the piston stop wedge (0117571).
16. Unscrew the nut (21) and take off the disc (20).
17. Pull off the magneto flywheel (19) with the puller (0068900).

CAUTION
To prevent damage to the crankshaft, always use the protection cap that belongs to the puller.

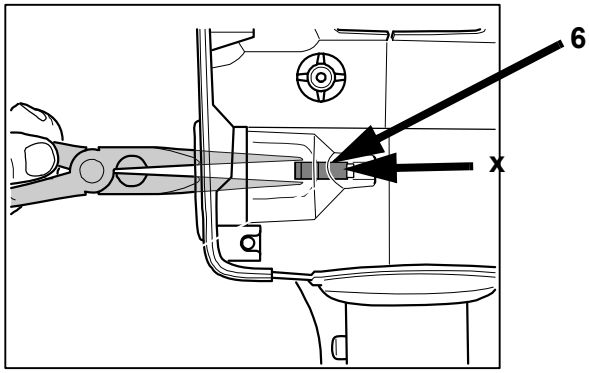
6 Disassembly

6.6 Tank



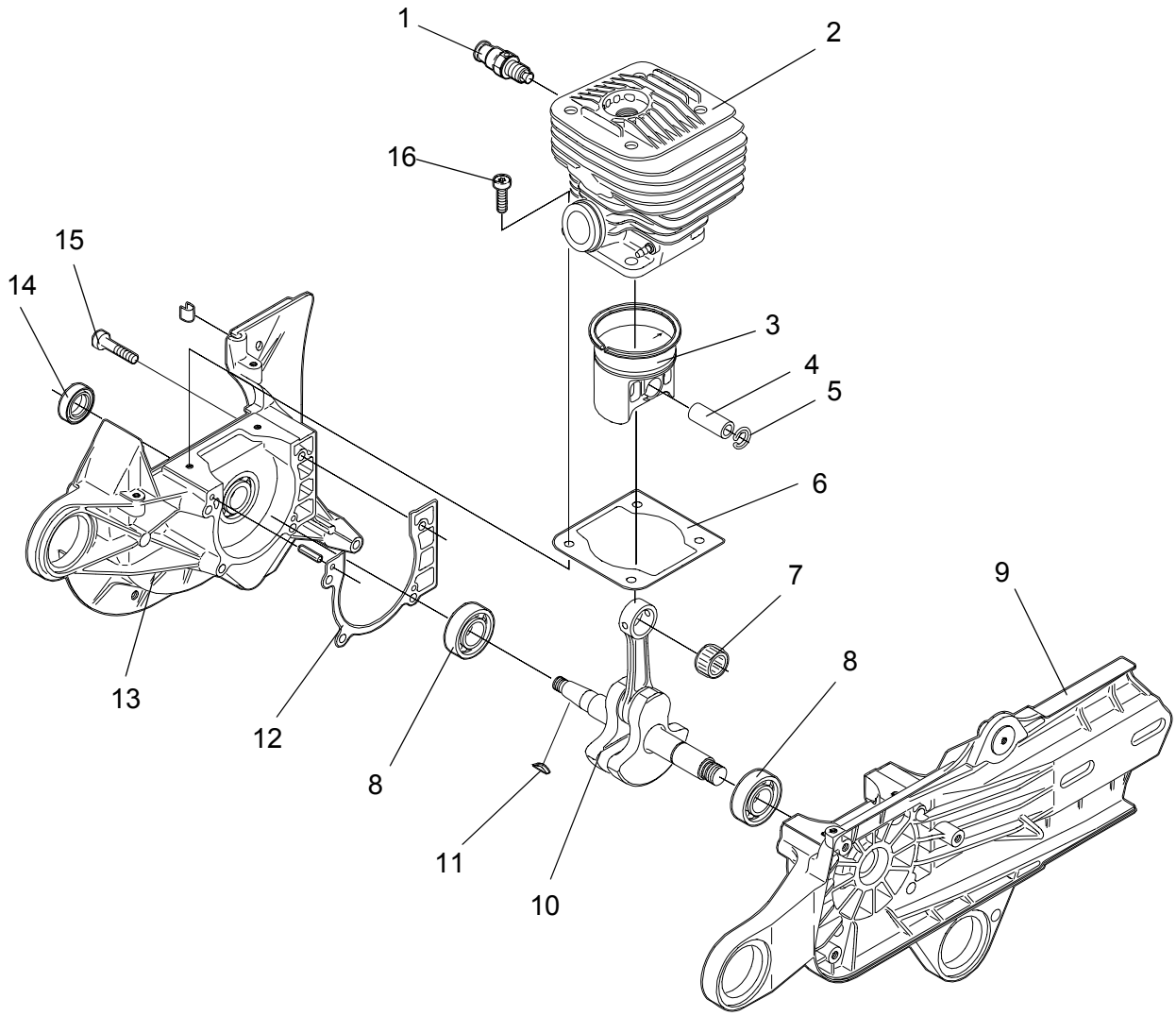
Item	Designation	Item	Designation	Item	Designation
1	Parallel pin	5	Handle shell	9	Fuel cap
2	Throttle lever lock	6	Vent valve	10	Suction hose
3	Spring	7	Suction head	11	Gasoline locking pin
4	Throttle lever	8	Seal		

1. Only if it becomes necessary, press in the vent valve (6) into the tank (x) with a mandrel and take it out through the filler opening with needle-nose pliers.



2. Press the two cylinder bolts (1) out of the handle shell (5).
3. The throttle lever (4), spring (3), throttle lever lock (2), and the gasoline locking pin (11) can now be replaced.
4. Pull the suction hose (10) out of the tank and remove the suction head (7).
5. Screw off the fuel cap (9) with seal (8).

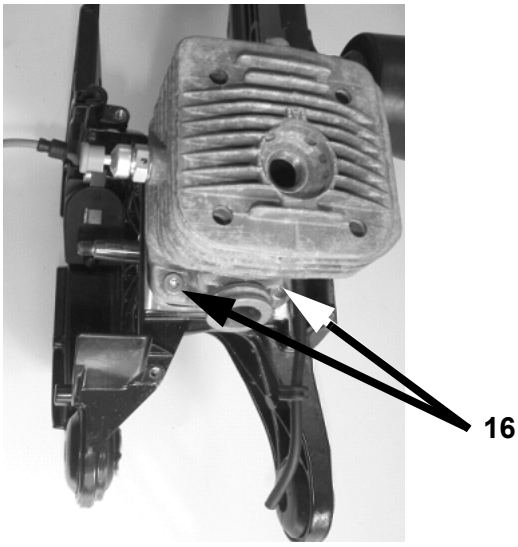
6.7 Cylinder/Crankshaft



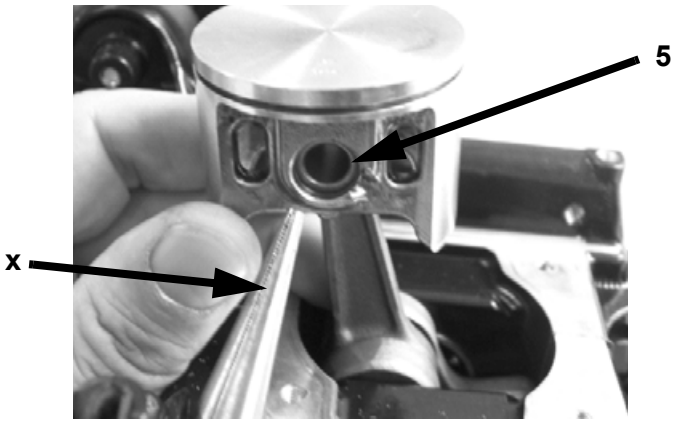
Item	Designation	Item	Designation	Item	Designation
1	Decompression valve	7	Needle cage	13	Crankcase half (MS)
2	Cylinder	8	Ball bearing	14	Rotary shaft seal
3	Piston	9	Crankcase half (CS)	15	Torx screw
4	Piston pin	10	Crankshaft	16	Torx screw
5	Wire snap ring	11	Woodruff key		
6	Cylinder base gasket	12	Crankcase gasket		

CS = Clutch side MS = Magnet side

1. Unscrew the screws (16) from the cylinder (2).
2. Pull the cylinder (2) with cylinder base gasket (6) off of the crankcase halves (9,13) and piston (3).

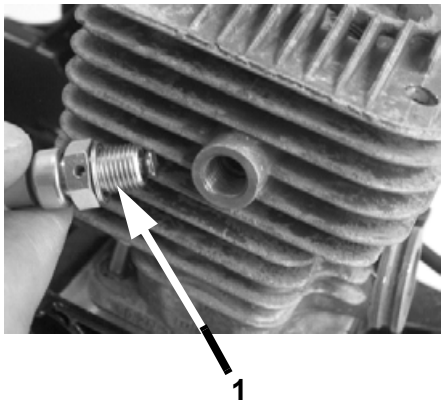


3. Take out the wire snap ring (5) from the ring groove in the piston (3) using needle-nose pliers (x).
4. Press out the piston pin (4) and take off the piston.



5. Press the needle cage (7) out of the connecting rod of the crankshaft (10).

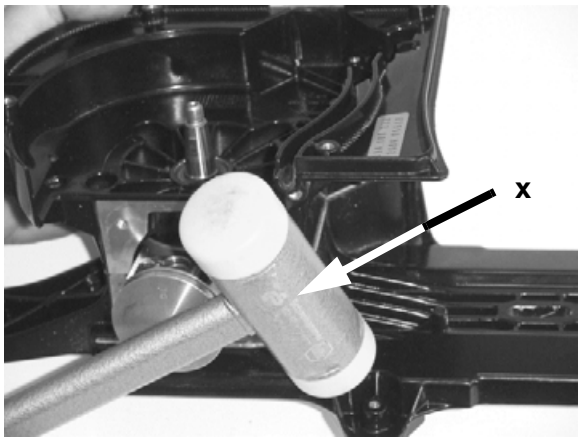
6. Unscrew the decompression valve (1) and check the valve seat as well as the bore in the cylinder (2) for dirt.
7. Replace the dirty decompression valve (1). Carefully clean the bore.



8. Remove the woodruff key (11).
9. Unscrew the 4 screws (15) from the crankcase half (13).

Note: A slip fit is located between the crankshaft (10) and the ball bearing (8) on the magnet side (MS). For this reason, always remove the "MS" first.

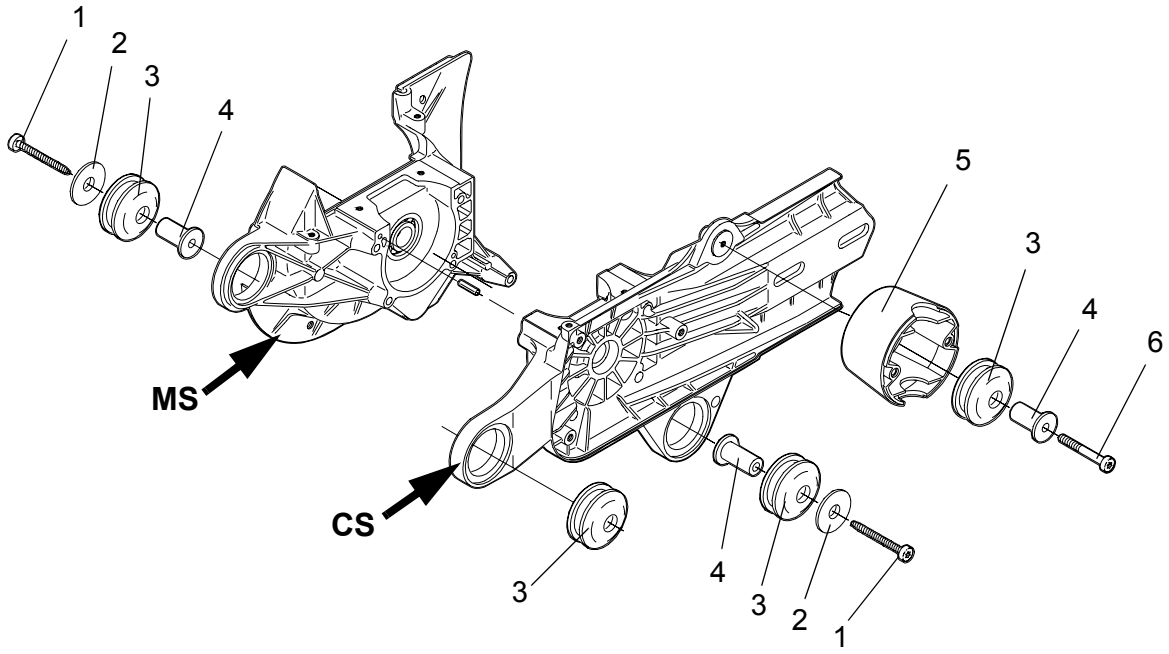
10. Carefully separate the two crankcase halves (9,13) by using a plastic mallet (x).



11. Remove the rotary shaft seal (14).
12. To remove the ball bearings (8), always heat the crankcase halves (9,13) to approx. 100 to 120 °C (industrial dryer).
13. Pull off the ball bearings (8) from the crankshaft (10).

6 Disassembly

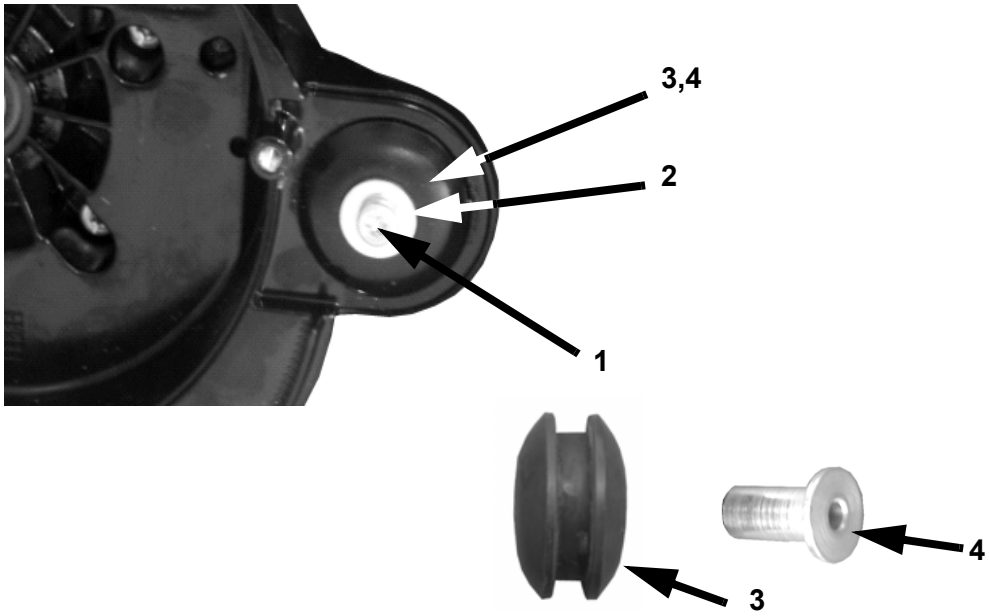
6.8 Vibration dampers



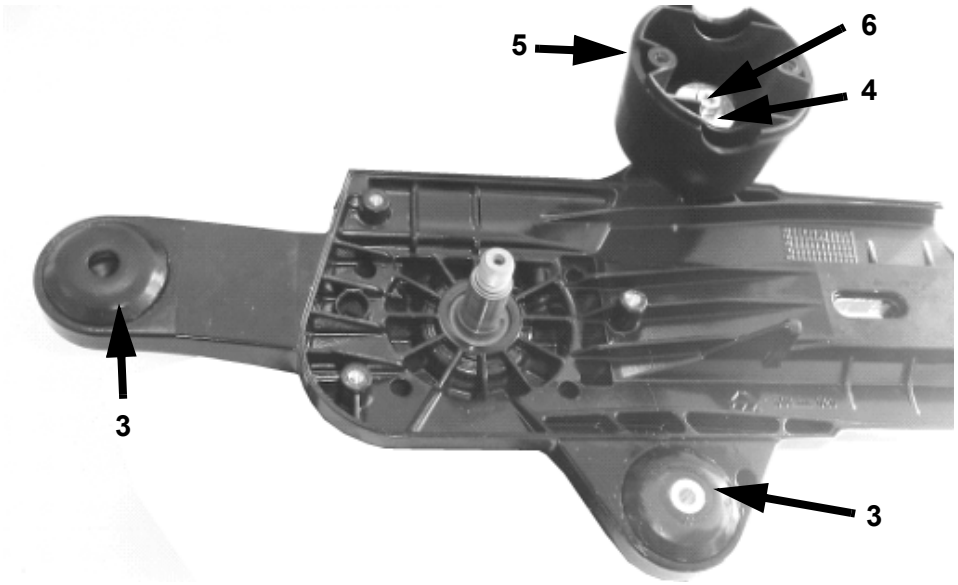
Item	Designation	Item	Designation	Item	Designation
1	Torx screw	3	Vibration dampers	5	Holder cup
2	Disc	4	Shaft	6	Torx screw

MS = Magnet side CS = Clutch side

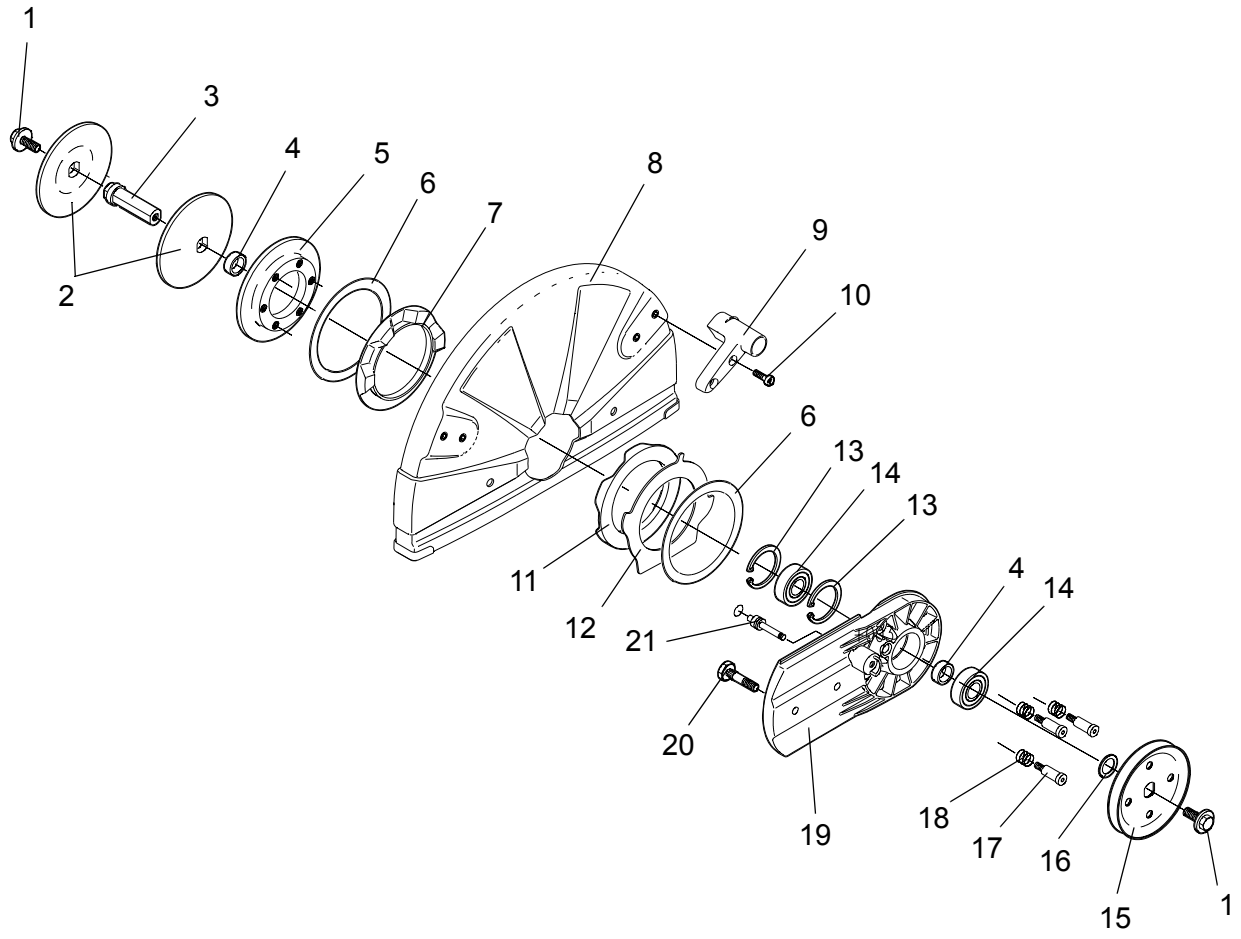
1. Unscrew the Torx screw (1) from the crankcase half (MS) and remove the disc (2).
2. Press the axle (4) out of the vibration dampers (3).
3. Pry out the vibration dampers (3) using a screwdriver.



4. Remove the 2 vibration dampers (3) from the crankcase half (CS) the same way as for the crankcase half (MS).
5. Remove the Torx screw (6) and cup attachment (5) from the crankcase half (CS).
6. Press out the axle (4) and pry out the vibration dampers (3) by using a screwdriver.

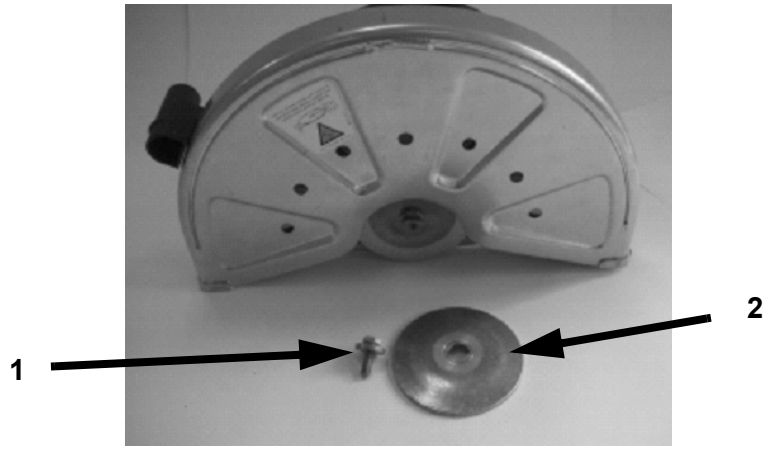


6.9 Protective hood/V-belt pulley

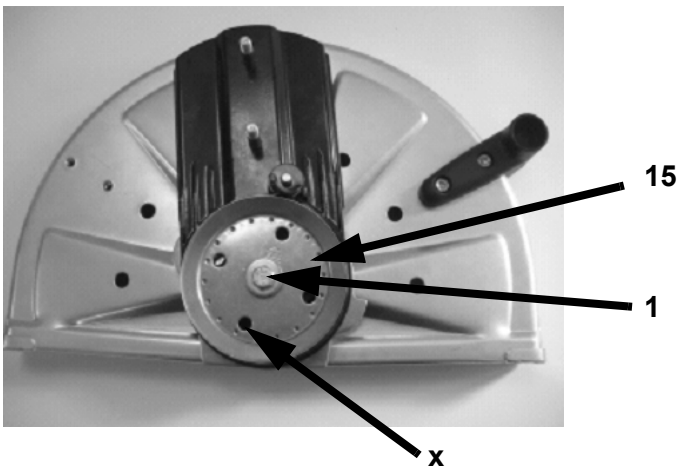


Item	Designation	Item	Designation	Item	Designation
1	Hexagonal bolt	8	Protective hood	15	V-belt pulley
2	Thrust washer	9	Handle	16	Shim ring
3	Shaft	10	Torx screw	17	Screw
4	Distance bushing	11	Outer rubber ring	18	Spring
5	Thrust collar	12	Stop flange	19	Cutting attachment
6	Sliding washer	13	Retaining clip	20	Screw
7	Inner rubber ring	14	Ball bearing	21	Stop pin

1. Unscrew the screw (1) and remove the thrust washer (2).

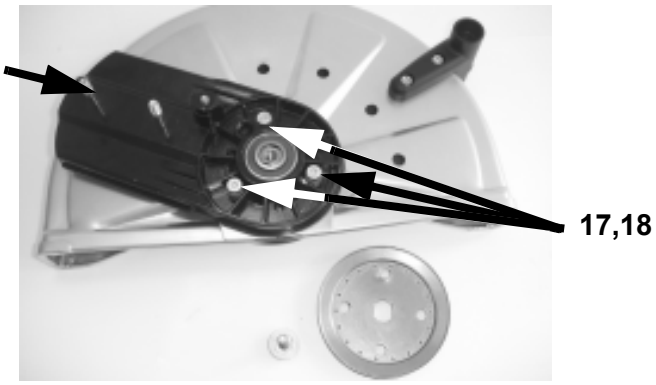


2. Block the V-belt pulley (15) by inserting a mandrel into the bore (x).
3. Unscrew the hexagonal bolt (1) and take off the V-belt pulley (15) with shim ring (16).

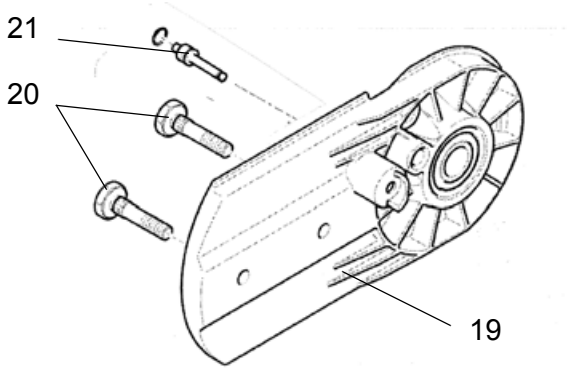


4. To remove the second thrust washer (2), you must remove the axle (3) and distance bushing (4).

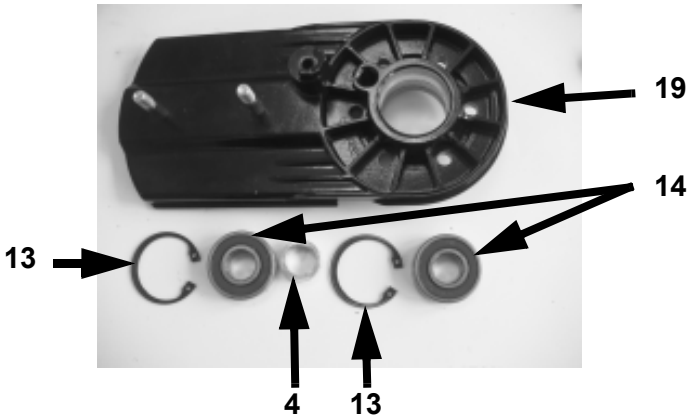
5. Unscrew the screws (17) with springs (18) from the thrust collar (5).
6. Take off the entire protective hood (8) with the parts 5,6,7,11,12.
7. Unscrew the Torx screws (10) and take off the handle (9).



8. Press the stop pin (21) and the screws (20) out of the cutting attachment (19).



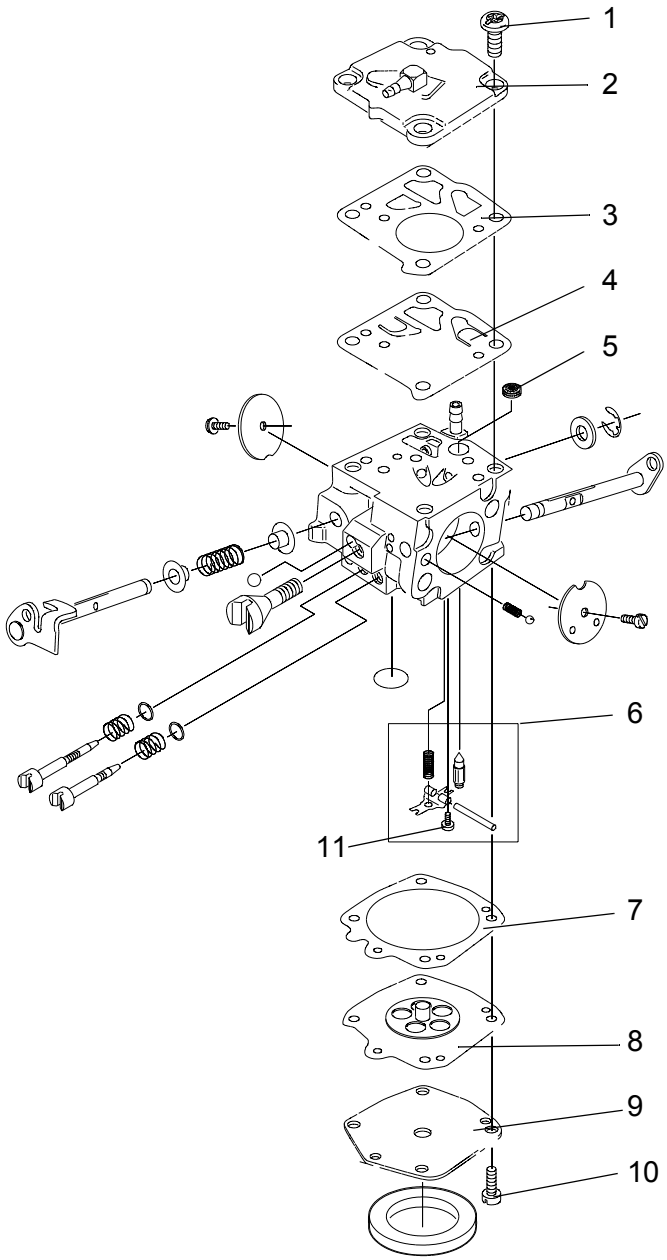
9. Heat the cutting attachment (19).
10. Press out the ball bearing (14) and distance bushing (4).
11. Remove the retaining clip (13), disassemble the ball bearing (14) and the second retaining clip (13).



6 Disassembly

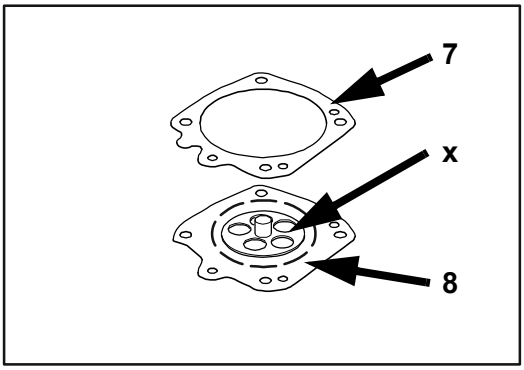
7 Disassembly/Inspection

7.1 Carburetor/Inspection

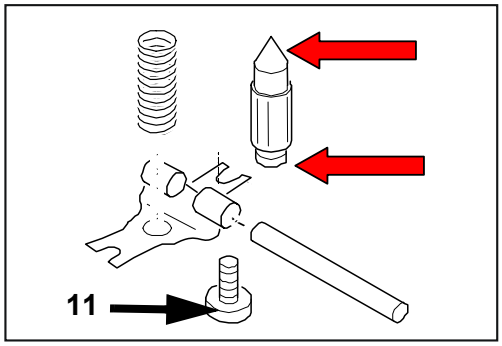


Item	Designation	Item	Designation	Item	Designation
1	Screw	5	Carburetor fuel screen	9	Cover
2	Cover	6	Needle valve set	10	Screw
3	Seal	7	Seal	11	Screw
4	Pump diaphragm	8	Control diaphragm		

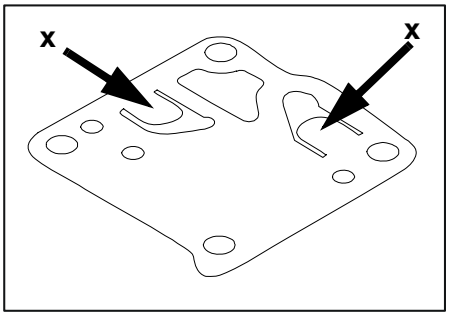
1. To disassemble the control side, unscrew the screws (10), carefully take off the cover (9), control diaphragm (8), seal (7) from the needle valve set (6).
2. After the control diaphragm (8) has been removed, it must lie flat. The rounded edge on the reinforcement plate (x) must be flat. Always replace the control diaphragm (8) if it is defective.



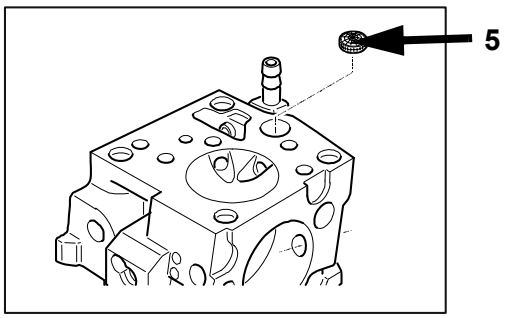
3. Unscrew the screw (11) and take off the needle valve set (6).
4. If there are signs of wear on the fuel inlet needle (see arrows), always replace the needle valve set (6).



5. To disassemble the pump side, unscrew the screws (1), take off the cover (2), seal (3), and pump diaphragm (4).
6. The two valve flaps (x) must lie flat on the carburetor body.
7. Replace damaged pump diaphragm (4), as this can cause starting and operation problems.



8. For cleaning purposes, you can take out the carburetor fuel screen (5) out of the carburetor body by carefully using a pointed object.
9. After you clean the carburetor fuel screen (5), insert it with a pin.



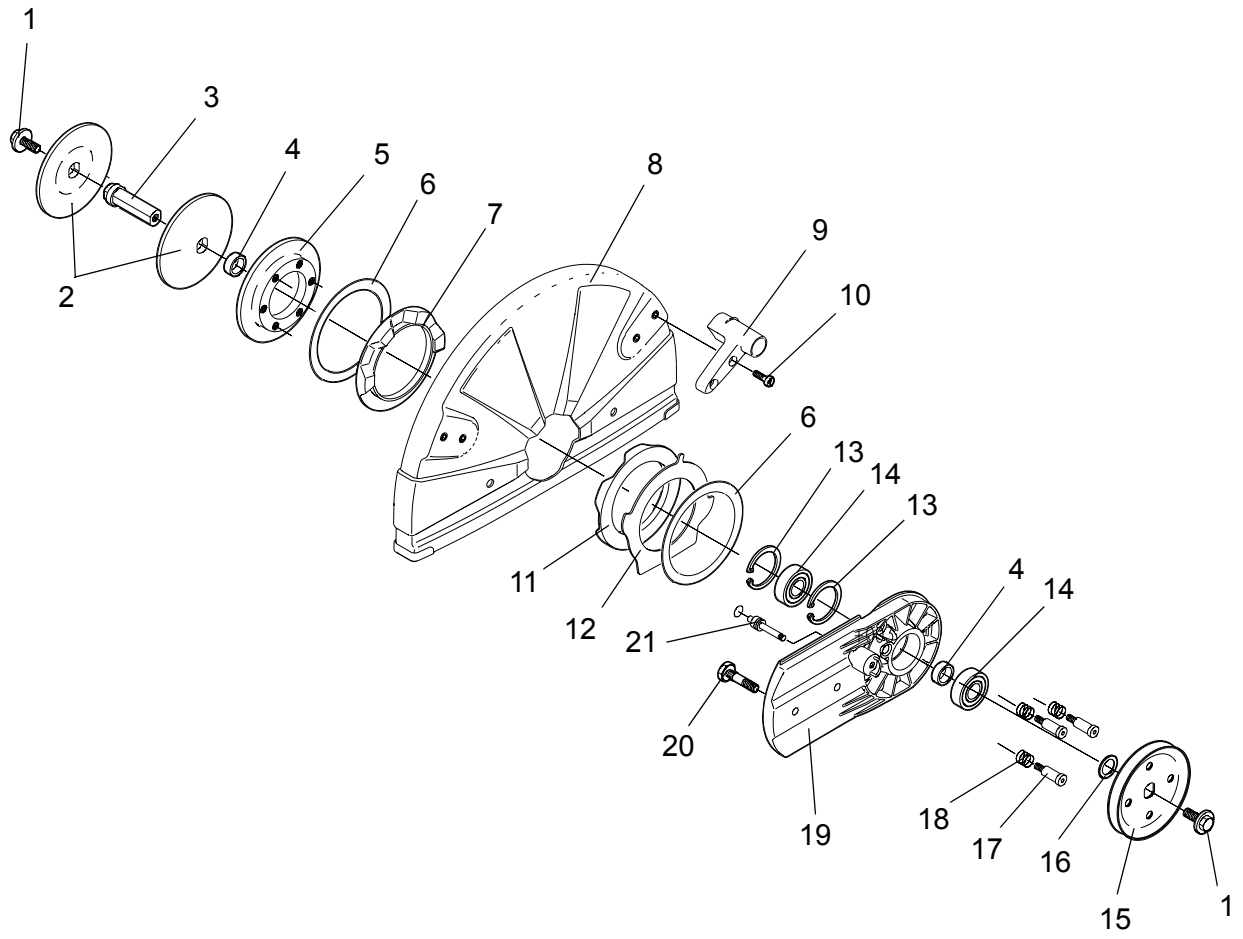
10. To test the carburetor while installed, take the fuel line out of the tank. Pull off the suction head. Set the pressure gauge (0079264) onto the reducing socket.

11. Apply 0.5 bar of pressure to the carburetor. Excessively high pressures can damage the diaphragms. The pressure should remain constant.

7 Disassembly/Inspection

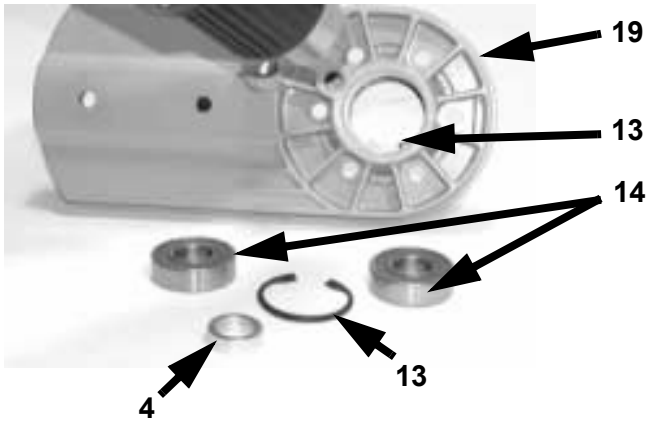
8 Assembly

8.1 Protective hood/V-belt pulley



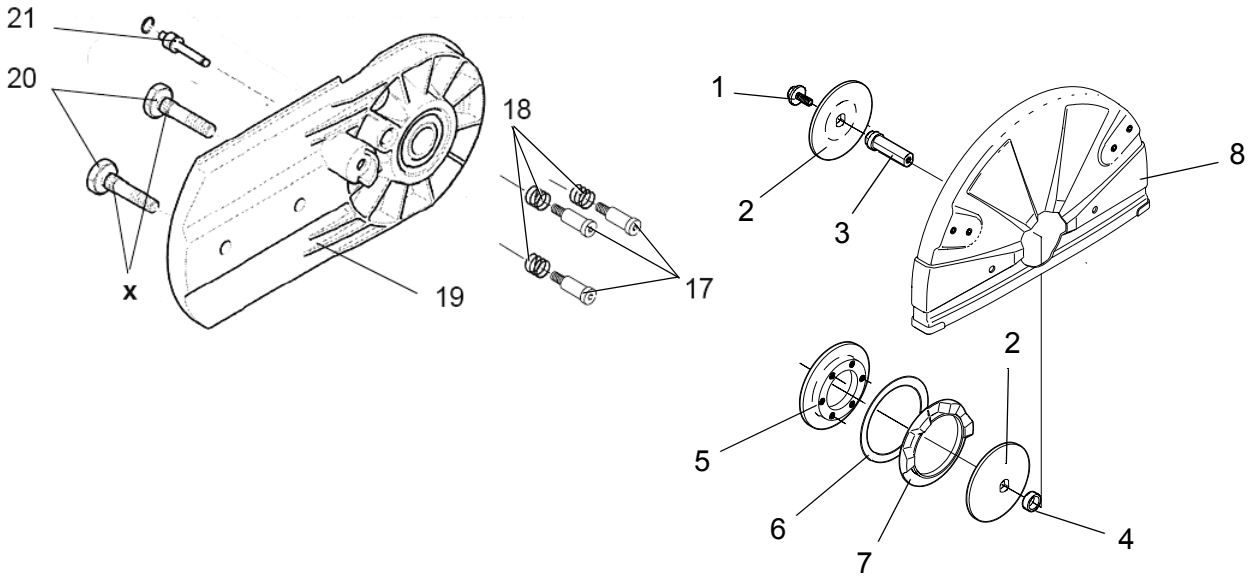
Item	Designation	Item	Designation	Item	Designation
1	Hexagonal bolt	8	Protective hood	15	V-belt pulley
2	Thrust washer	9	Handle	16	Shim ring
3	Shaft	10	Torx screw	17	Screw
4	Distance bushing	11	Outer rubber ring	18	Spring
5	Thrust collar	12	Stop flange	19	Cutting attachment
6	Sliding washer	13	Retaining clip	20	Screw
7	Inner rubber ring	14	Ball bearing	21	Stop pin

1. Attach the outer retaining clip (13).
2. Heat the cutting attachment (19) to approx. 100 °C (use industrial hot air gun).
3. Press the ball bearing (14) up against the retaining clip (13).
4. Insert the second retaining clip (13) and spacer bushing (4).
5. Also press the second ball bearing (14) up against the retaining clip (13).

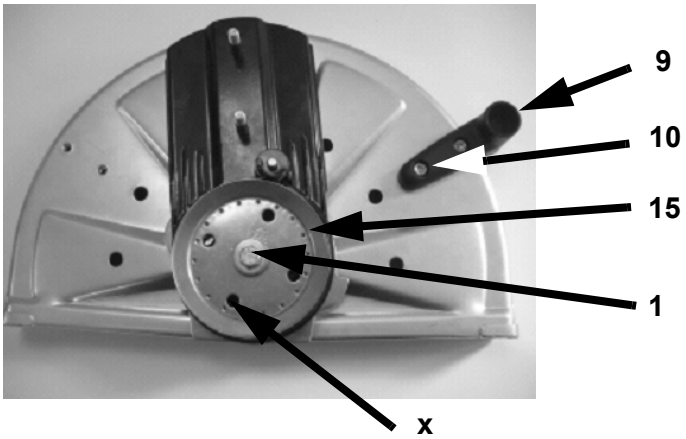


6. Apply bonding compound to the fluted area (x) on the screws (20).
7. Insert the screws (20) and stop pin (21).
8. Mount the complete hood (8) with the parts 6,12,11,7,6 and 5 and screw the screws (17) with springs (18) into the thrust collar (5) (torque wrench setting 10 Nm).

Note: When attaching the hood, make sure you follow the correct order of the parts (see Fig. 8.1).



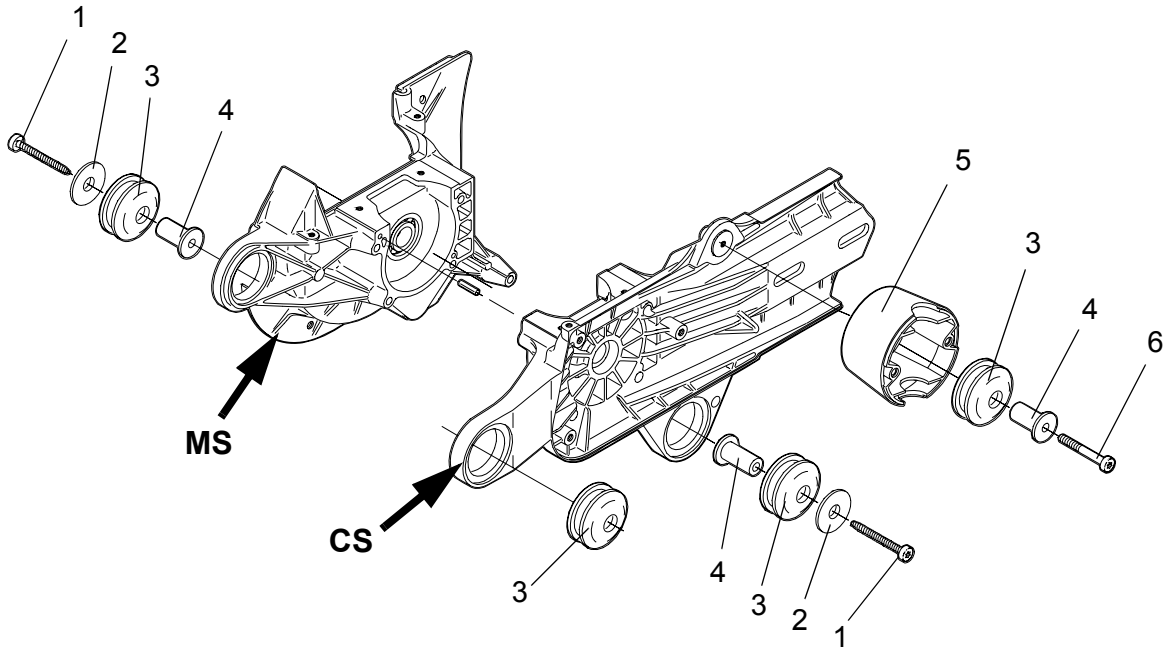
9. Set the inner thrust washer (2) and the distance bushing (4) onto the axle (3).
10. Insert the axle (3) into the cutting attachment (19) that is premounted to the hood.
11. Attach the shim ring (16) onto the axle (3).
12. Hold the V-belt pulley (15) against it, block it by inserting a mandrel through the bore (x) and screw it on with the hexagonal bolt (1) (torque wrench setting 25 + 5.0 Nm).
13. Screw on the handle (9) with the Torx screw (10).



Note: The V-belt pulley (15) is not fastened until the cutting disc is attached.

8 Assembly

8.2 Vibration dampers



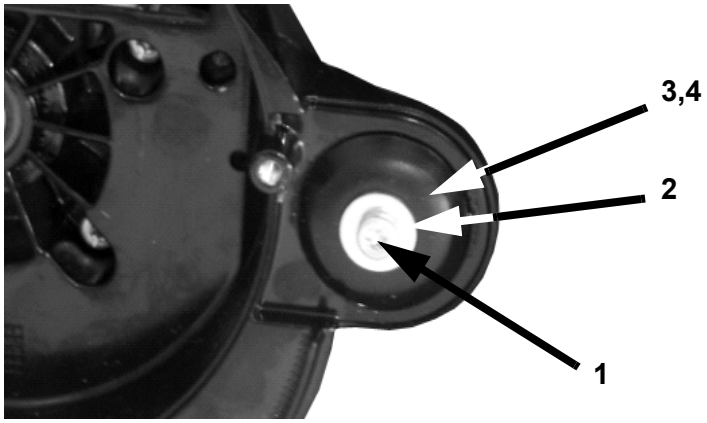
Item	Designation	Item	Designation	Item	Designation
1	Torx screw	3	Vibration damper	5	Holder cup
2	Disc	4	Shaft	6	Torx screw

MS = Magnet side CS = Clutch side

Note: Apply grease to the vibration dampers (3) before you install them.

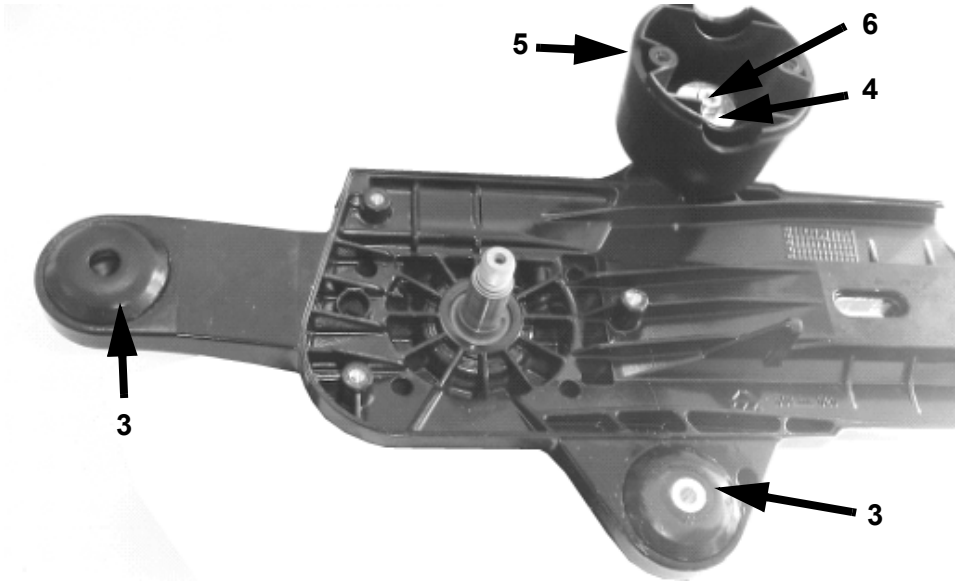
MS crankcase:

1. Press the axle (4) with the collar inward into the vibration damper (3).
2. Fasten with disc (2) and Torx screw (1).

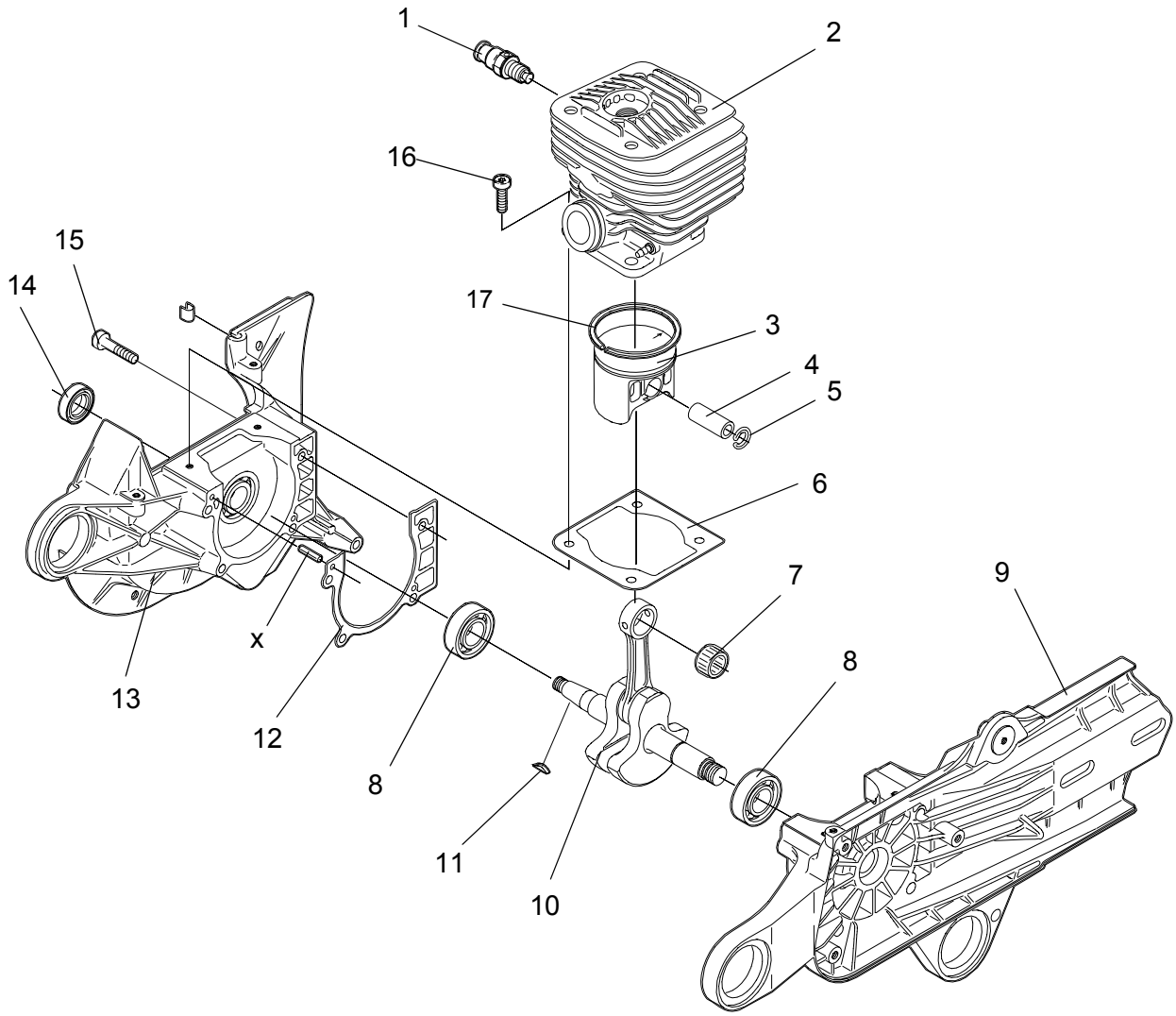


CS crankcase:

3. Insert the vibration damper (3) into the crankcase at the rear.
4. Press the axle (4) with the collar inward into the vibration damper (3) and fasten it with the disc (2) and Torx screw (1) to the enclosure (torque wrench setting 6 ± 0.5 Nm).
5. Press the axle (4) into the vibration damper (3) and set it into the holder cup (5) with the Torx screw (6).
6. Screw the holder cup (5) onto the crankcase (torque wrench setting 6 ± 0.5 Nm).



8.3 Cylinder/Crankshaft

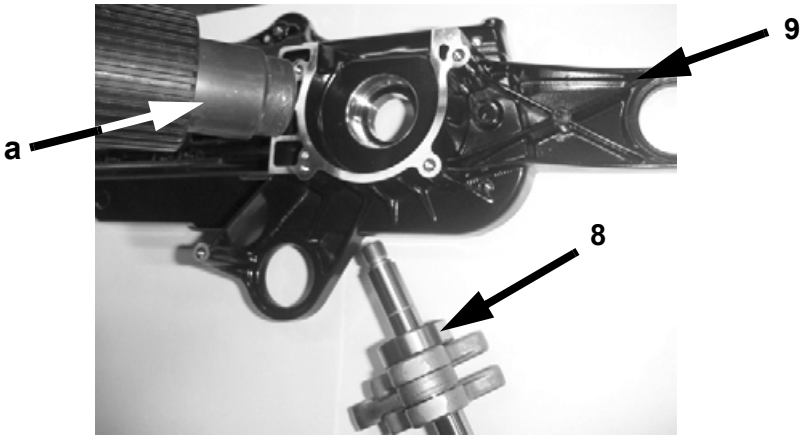


Item	Designation	Item	Designation	Item	Designation
1	Decompression valve	7	Needle cage	13	Crankcase half (MS)
2	Cylinder	8	Ball bearing	14	Rotary shaft seal
3	Piston	9	Crankcase half (CS)	15	Torx screw
4	Piston pin	10	Crankshaft	16	Torx screw
5	Wire snap ring	11	Woodruff key	17	Piston ring
6	Cylinder base gasket	12	Crankcase gasket		

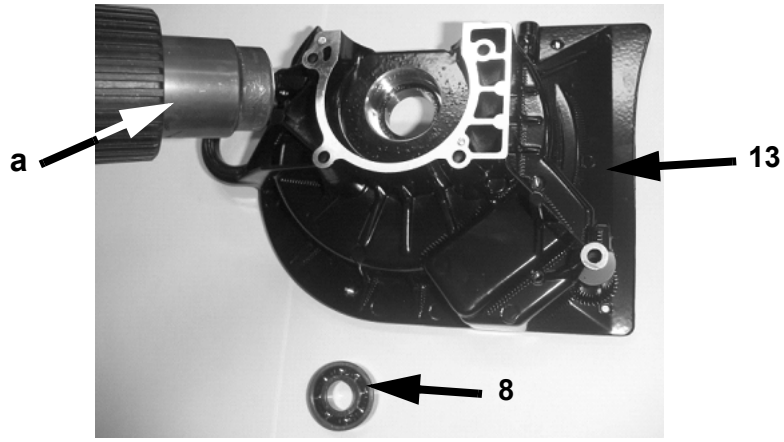
CS = Clutch side MS = Magnet side

Note: The exposed side of the ball bearing (8) faces the crankshaft. Apply Omnifit 100M to the ball bearings on the outer ring before you insert them in the crankcase (CS, MS).

1. Press the ball bearing (8) onto the crankshaft (10).
2. Heat the crankcase half (9) to approx. 100 - 120 °C (use industrial hot air gun).
3. Insert the crankshaft (10) with ball bearing (8) in the crankcase half (9).

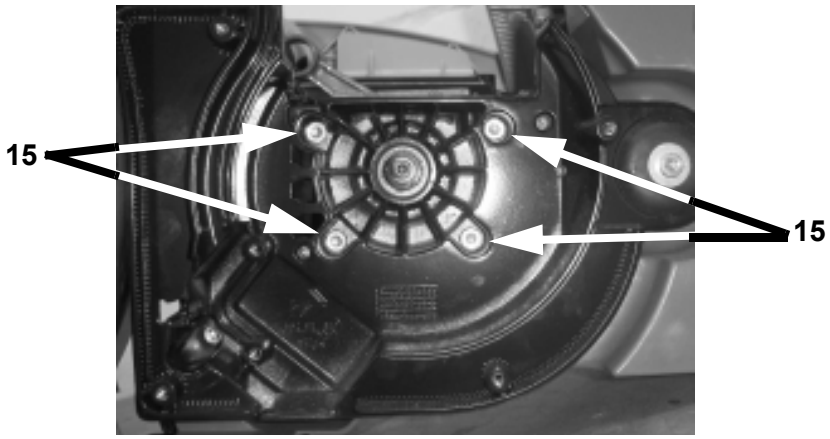


4. Heat the crankcase half (13) to approx. 100 - 120 °C (use industrial hot air gun) and press in the ball bearing (8).



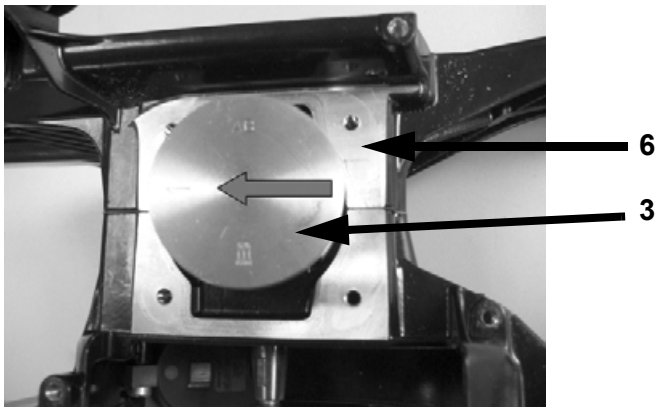
5. Place the crankcase gasket (12) on top, center the seal over the clamping sleeve (x - page 67).

6. Set the crankcase halves (9,13) together and screw them together with the Torx screws (15). Tighten the screws crosswise (torque wrench setting 10 Nm).



7. Press the rotary shaft seals (14) into the crankcase halves (CS, MS).
8. Insert the woodruff key (11) in the crankshaft (10).
9. Insert the needle cage (7) in the connecting rod of the crankshaft (10).
10. Fit in the cylinder base gasket (6) precisely.
11. Place the piston (3) onto the connecting rod of the crankshaft (10).

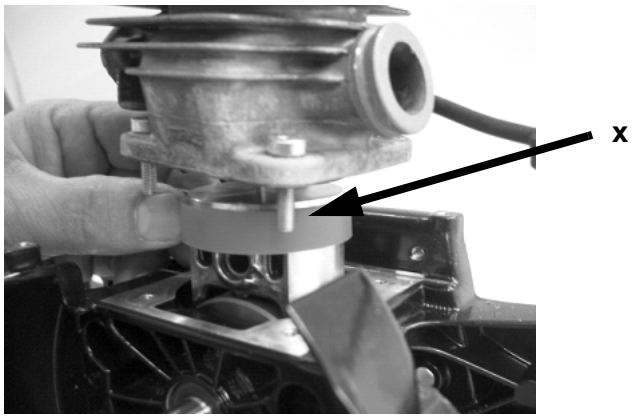
Note: The arrow on the top side of the piston must face in the direction of the exhaust.



12. Install the piston pin (4) and secure it with the wire snap ring (5).

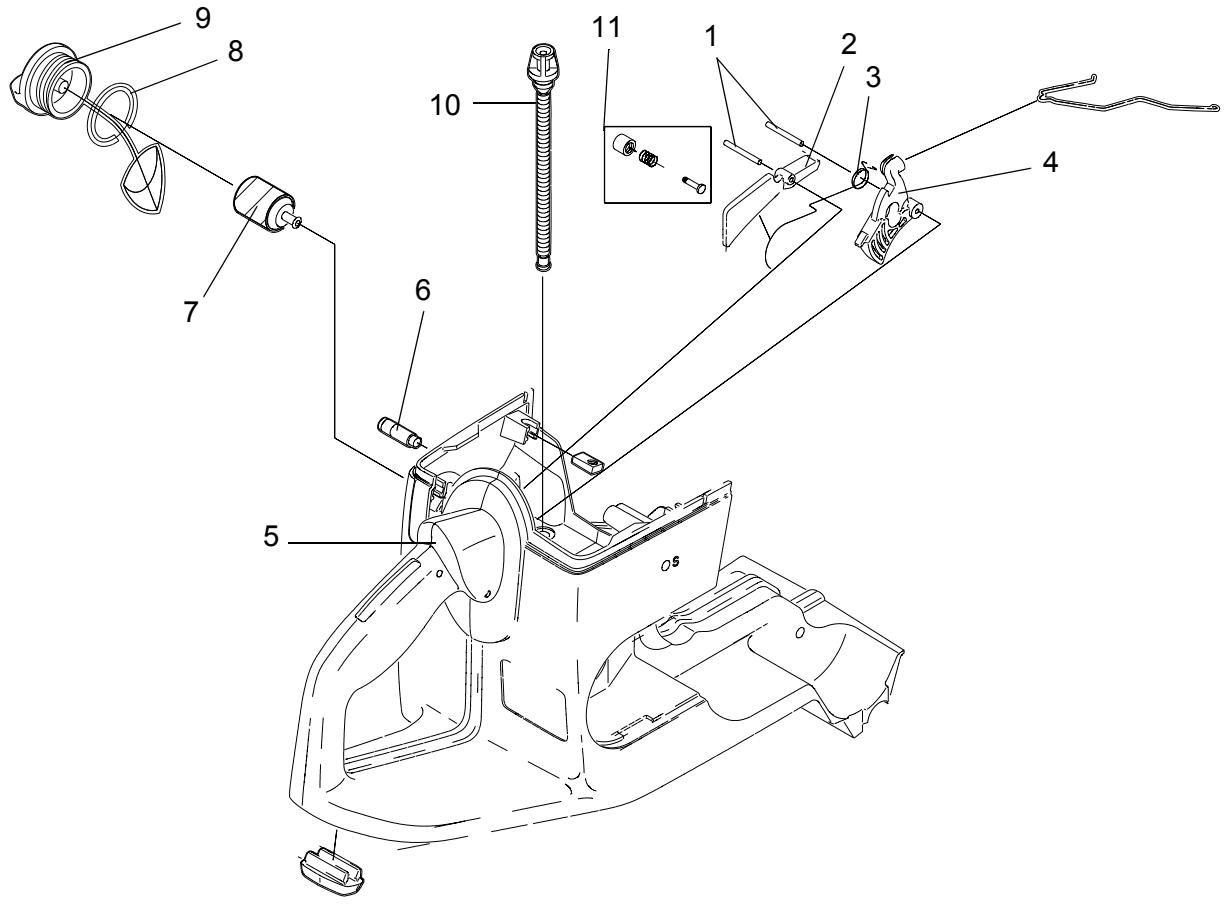
Note: The wire snap ring (5) must snap into the groove.

13. Place the piston support from the set of piston rings (0117575) onto the crankcase and set the piston (3) on top.
14. Press the piston ring (17) together with the clamp set.
15. Slide the cylinder (2) on the piston (3). At the same time, move the strap (x) downward or remove it afterward.



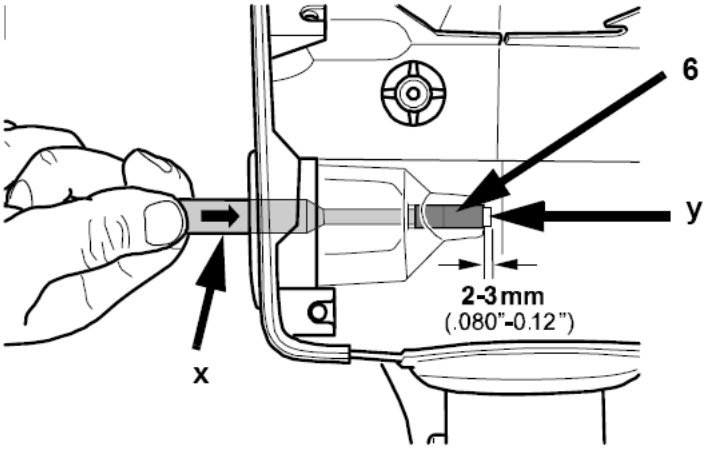
16. Fasten the cylinder (2) with the Torx screws (16) (torque wrench setting 14 + 1.0 Nm).
17. Insert the decompression valve (1).

8.4 Tank



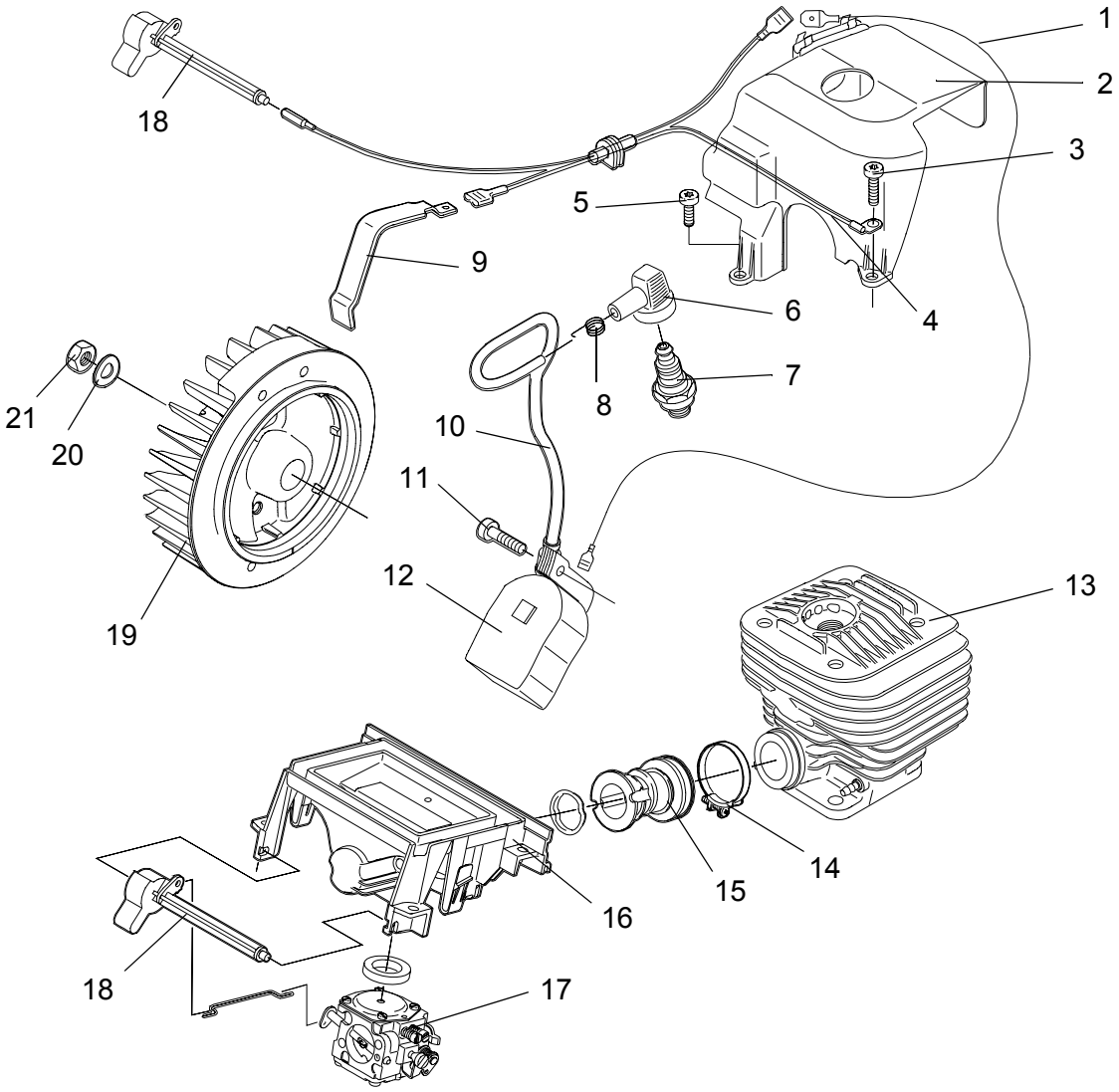
Item	Designation	Item	Designation	Item	Designation
1	Parallel pin	5	Tank	9	Fuel cap
2	Throttle lever lock	6	Vent valve	10	Suction hose
3	Spring	7	Suction head	11	Gasoline locking pin
4	Throttle lever	8	Seal		

1. Insert the suction hose (10), attach the suction head (7).
2. Screw in the fuel cap (9) and seal (8).
3. Mount the throttle lever (4), spring (3), throttle lever lock (2), and the gasoline locking pin (11) and insert them into the handle shell.
4. Fasten with the parallel pins (1).
5. Using a mandrel (x), press the vent valve (6) into the tank (5) far enough so that the white plastic tip (y) protrudes about 2 - 3 mm.



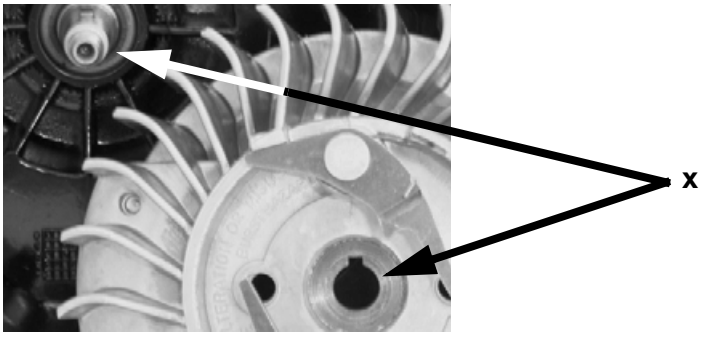
6. Screw the tank (5) together with the premounted crankcase.

8.5 Ignition system module/intake manifold

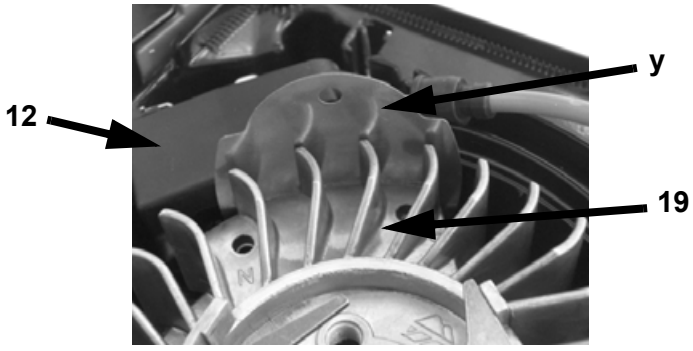


Item	Designation	Item	Designation	Item	Designation
1	Short circuit cable	9	Contact spring	17	Carburetor
2	Hood	10	Ignition cable	18	Choke shaft
3	Screw	11	Torx screw	19	Magneto flywheel
4	Ground cable	12	Magneto igniter	20	Spring washer
5	Screw	13	Cylinder	21	Hexagonal nut
6	Spark plug terminal cap	14	Hose clamp		
7	Spark plug	15	Suction hose		
8	Spring	16	Intake manifold		

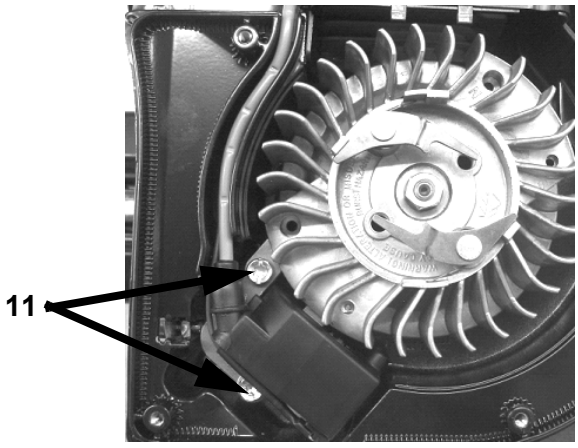
1. Clean the cone (x) of the crankshaft and magneto flywheel.



2. Set the magneto flywheel (19) onto the crankshaft.
3. Screw the hexagonal nut (21) with the spring washer (20) onto the crankshaft (torque wrench setting 30 - 5 Nm).
4. Connect the ignition cable (10) and short circuit cable (1).
5. Set the setting gauge (y) between the magneto igniter (12) and magneto flywheel (19).

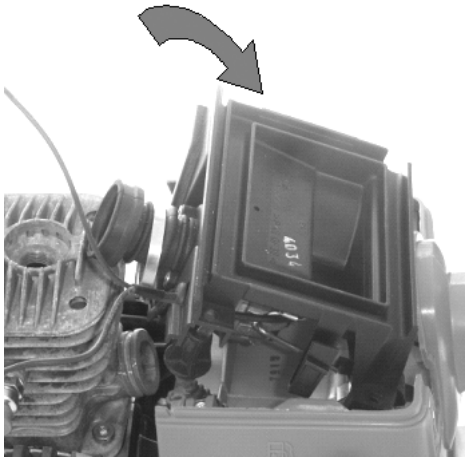


6. Press firmly against the magneto igniter (12) and tighten the Torx screws (11) evenly to 6 + 1 Nm.



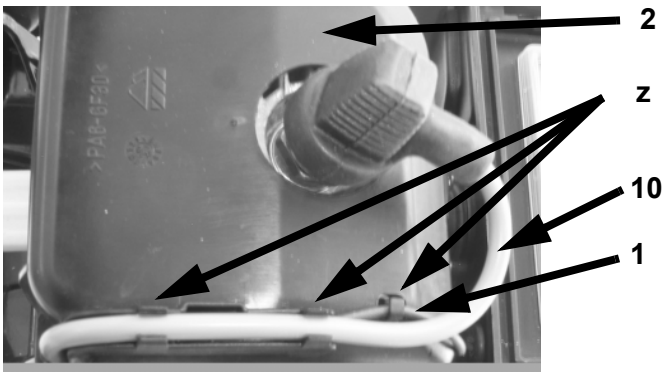
7. Insert the ground cable (4) in the plug connection of the contact spring (9).
8. Connect the short circuit cable (1) with the choke shaft (18).
9. Mount the choke shaft (18) to the carburetor (17).

10. Screw the carburetor (17) onto the intake manifold (16) (torque wrench setting 1.5 ± 0.5 Nm).
11. Connect the suction hose (15) to the intake manifold (16).
12. Slide the hose clamp (14) over the suction hose (15).



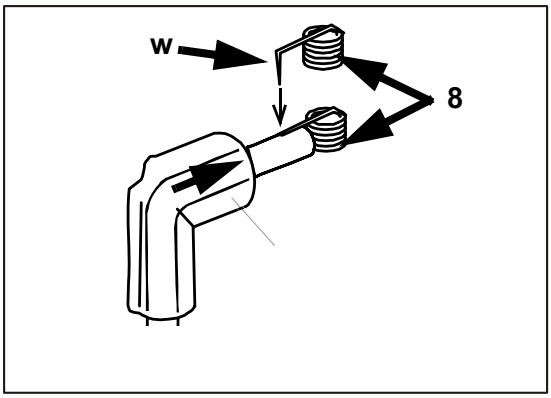
13. Place the intake manifold (16) into the tank enclosure.
14. Attach the suction hose (15) onto the cylinder (13) and fasten with the hose clamp (14).
15. Screw the spark plug into the cylinder (13) and tighten it.
16. Set the hood (2) onto the cylinder (13) and tighten firmly with the screws (5).
17. Screw in the screw (3) with the ground cable (4).
18. Lay the ignition cable and short circuit cable (10,1) into the holder (z) of the hood (2).

Note: For safety reasons, you should lay the short circuit cable (1) under the ignition cable (10) into the holder.



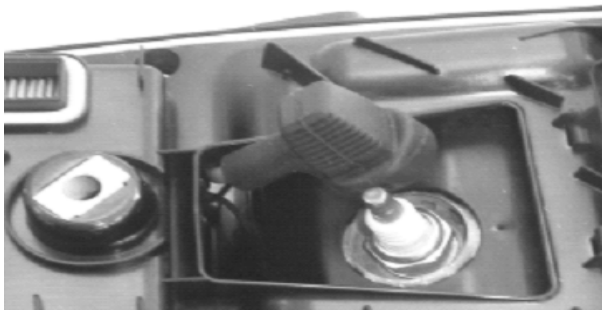
19. Press in the hook (w) of the spring (8) into the center of the ignition cable (10) from the top.

20. Pull the rubber cap over the spring (8).

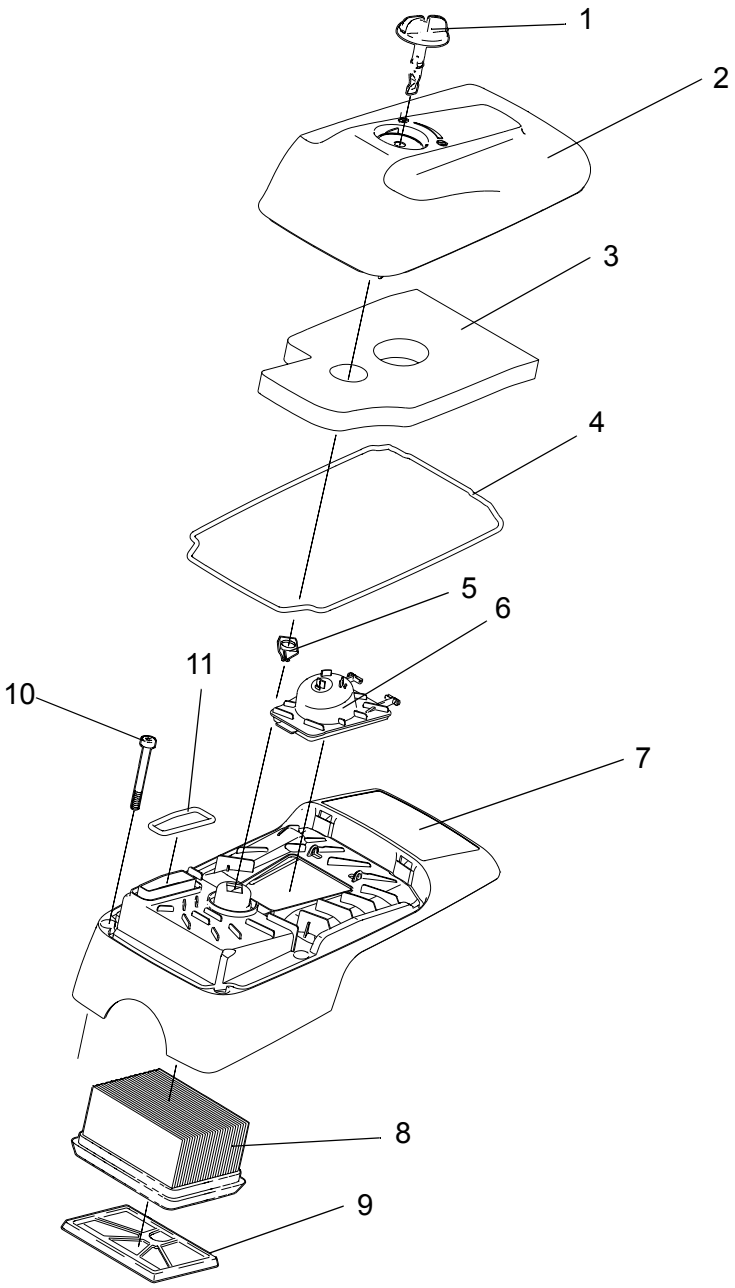


Note: An incorrectly mounted spring (8) can cause weak ignition sparks or lead to complete failure.

21. Plug the spark plug terminal caps (6) onto the spark plugs (7).

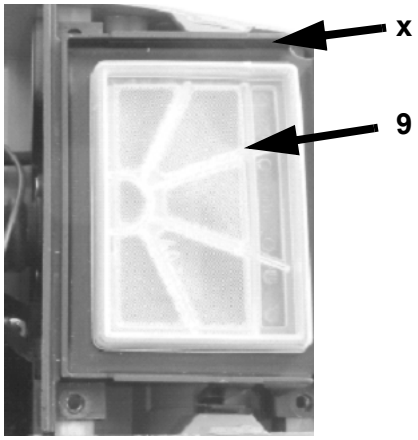


8.6 Filter cover/Filter

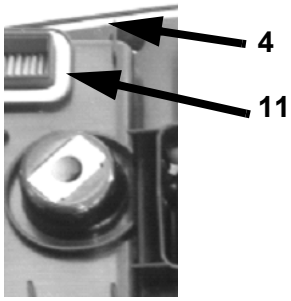


Item	Designation	Item	Designation	Item	Designation
1	Bayonet cap	5	Lower part of the plug	9	Internal filter
2	Filter cover	6	Spark plug cap	10	Torx screw
3	Prefilter	7	Hood	11	Gasket
4	Gasket	8	Air filter cartridge		

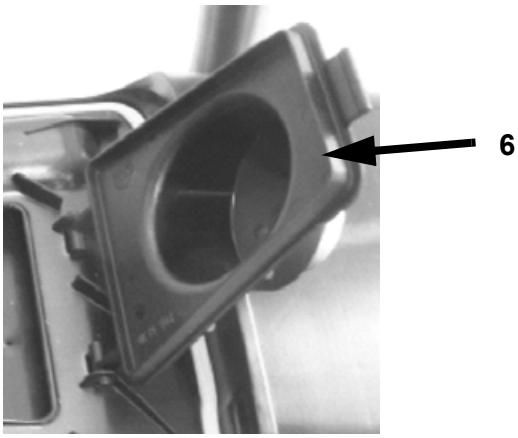
1. Lay the internal filter (9) into the intake manifold (x).



2. Set the air filter cartridge (8) onto the internal filter (9).
3. Screw the hood (7) onto the intake manifold (x) with the Torx screws (10).
4. Insert the seal rings (4,11).



5. Insert the lower part of the plug (5).
6. Attach the spark plug cap (6).

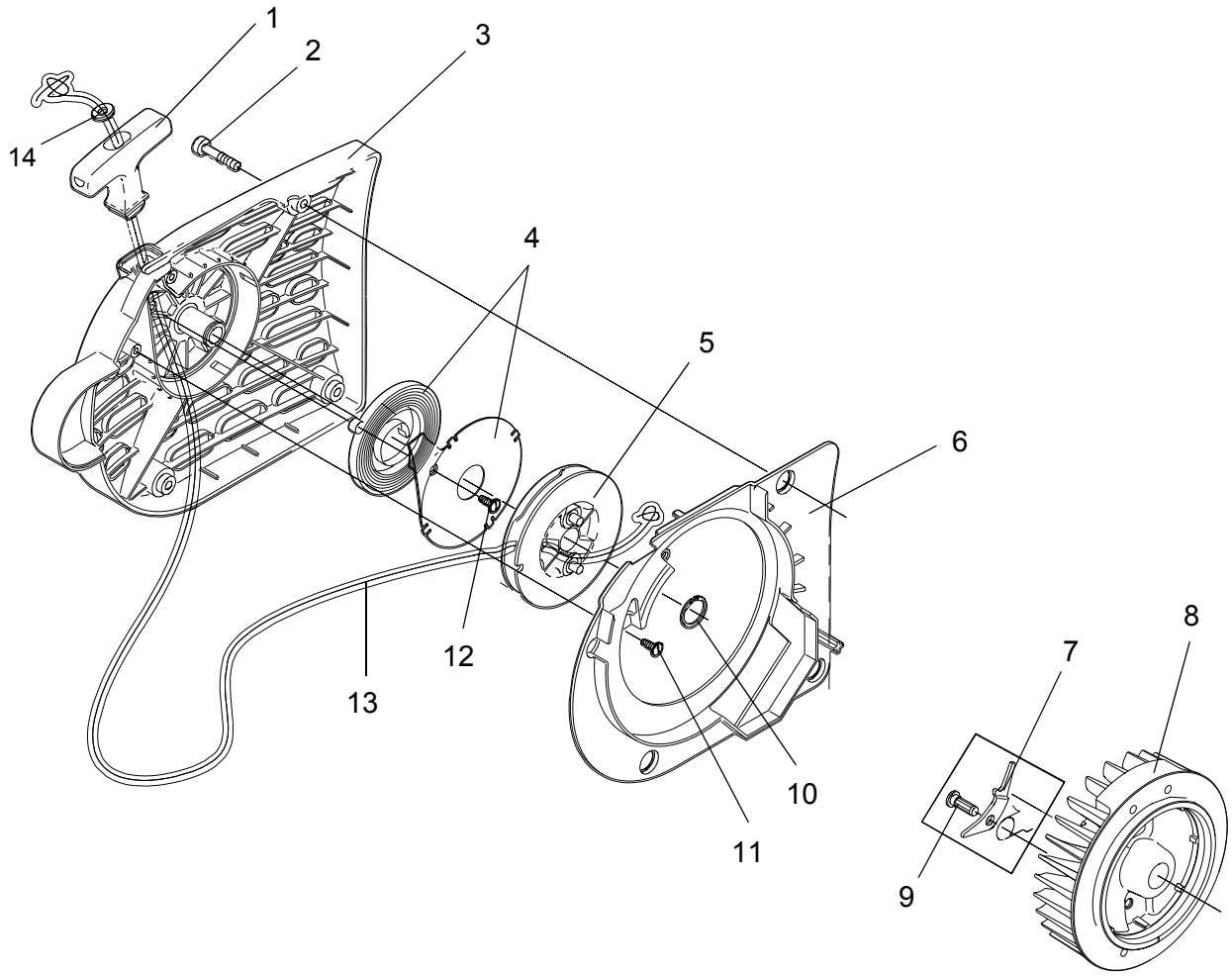


7. Press the prefilter (3) into the filter cover (2).

Note: Align the prefilter (3) with the filter cover holder.

8. Set the filter cover (2) on top and lock with the bayonet cap (1).

8.7 Recoil starter

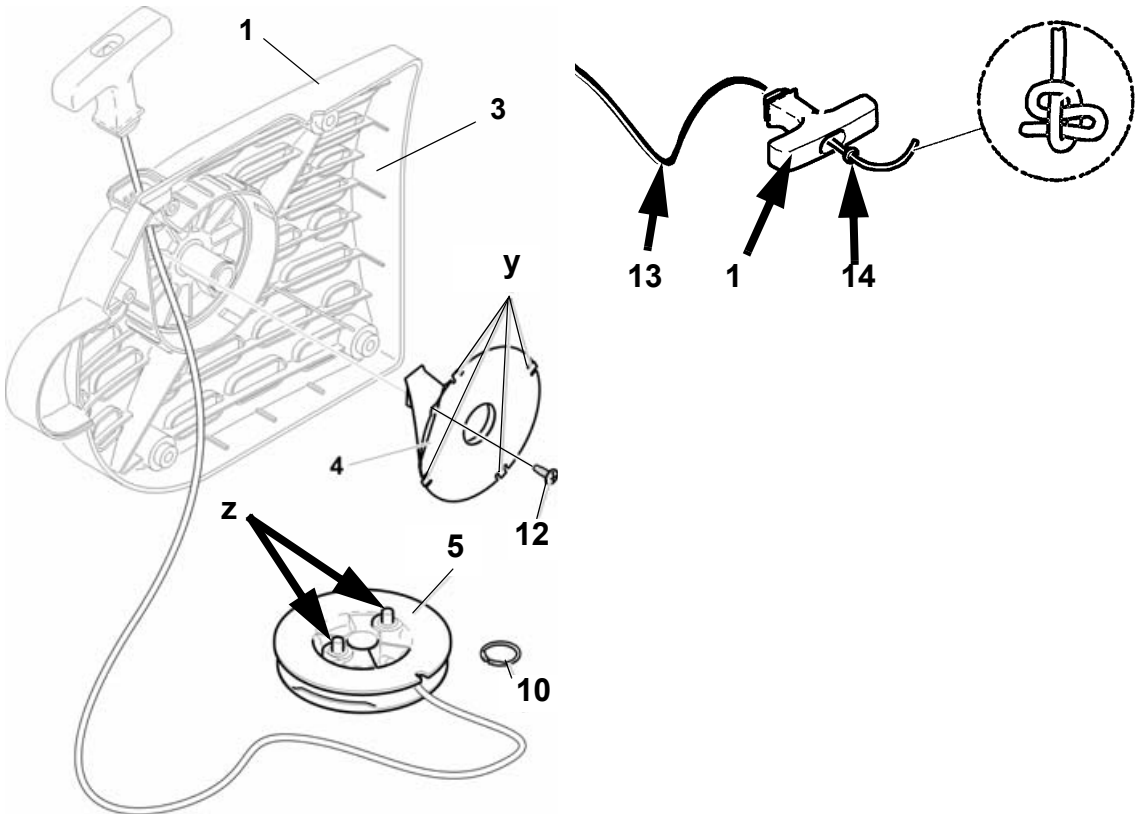


Item	Designation	Item	Designation	Item	Designation
1	Starter handle	6	Air horn	11	Torx tapping screw
2	Torx screw	7	Starter ratchet	12	Torx tapping screw
3	Starter housing	8	Magneto flywheel	13	Starter rope
4	Return spring	9	Bolt	14	Spring washer
5	Rope drum	10	V-ring		

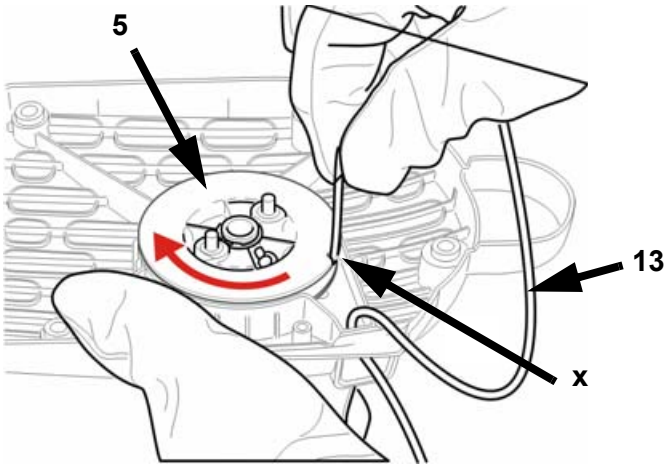
1. Apply bonding compound to the bolt (9).
2. Press the bolt (9) with springs far enough to create a gap of 0.15 - 0.20 mm between the starter ratchet (7) and bolt (9). Attach the springs.
3. Apply a light coat of multipurpose grease to the new return spring (4) before you install it in the starter housing (3). Insert the return spring (4) and press gently against it so that the tabs (y) snap into the holders. Do not grease the rope drum (5) and journals (z)!
4. Screw in the Torx tapping screws (12) and tighten only slightly.
5. Pass the starter rope (13) through the rope drum (5), the starter housing (3) as well as the starter handle (1) with the spring washer (14). Knot both ends of the starter rope.

Note: The knot or the starter rope end must not extend beyond the surface of the starter handle (1).

6. When inserting the rope drum (5) in the starter housing (3), turn it slightly until you feel the spring lock into place. Mount the V-ring (10).



7. Pass the rope through the recess (x) on the rope drum (5) and, together with the rope, turn the rope drum (5) twice in the direction of the arrow.
8. Hold the rope drum (5) firmly with your left hand, untwist the rope (13) with your right hand, pull the rope (13) taut and hold it tightly.
9. Carefully release the rope drum (5). The spring tension will cause the rope drum (5) to wind up the rope (13).



10. Repeat the procedure three times. The starter handle (1) must now be in the upright position on the starter housing (3).

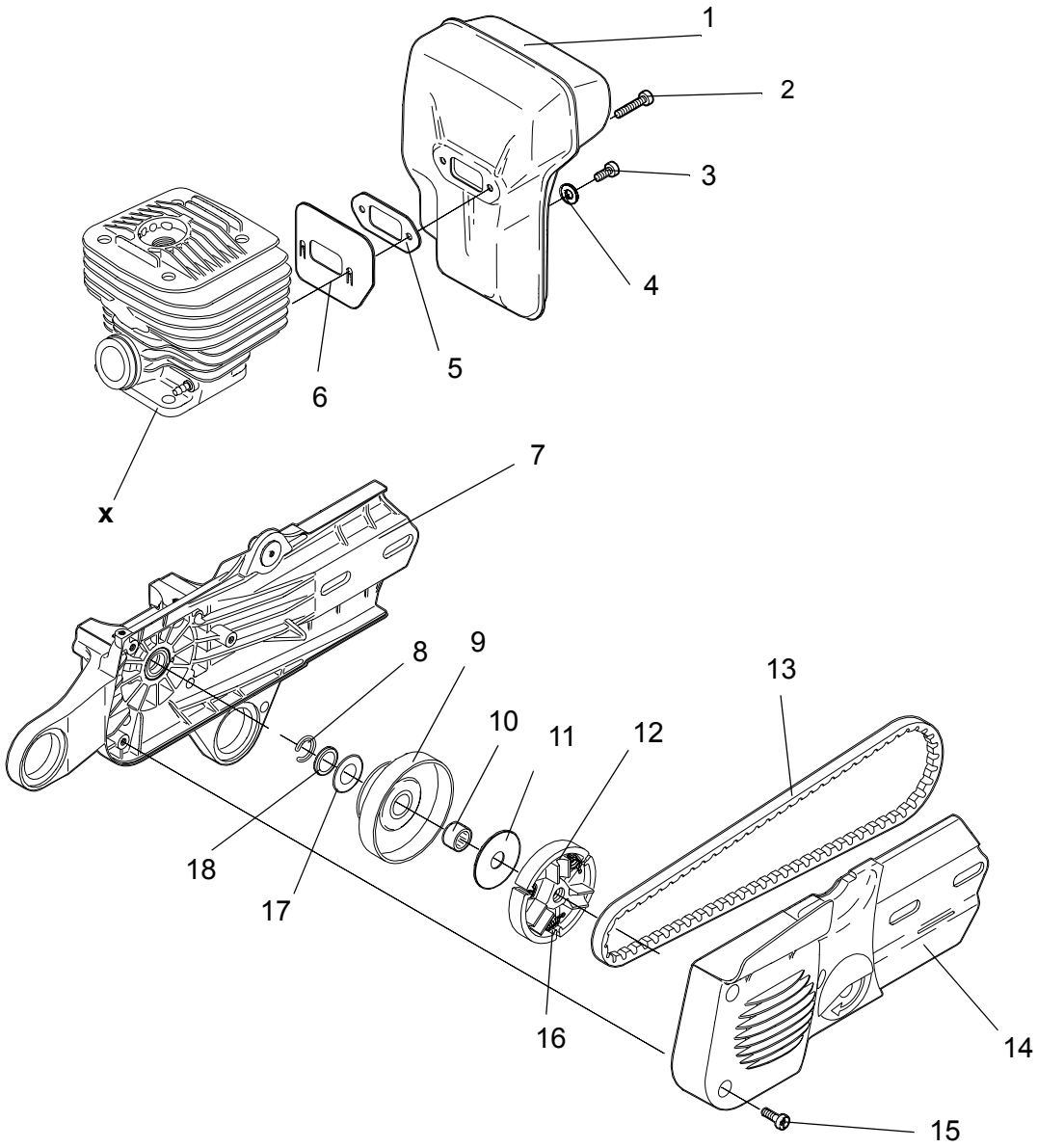
Note: When the starter rope has been fully extended, it must be possible to continue turning the rope drum at least a quarter of a turn against the spring tension.

Note: Hold the extended starter handle (1) securely. It will recoil quickly if you accidentally let go of the rope drum (5).

11. Screw the air horn (6) to the starter housing (3) with the Torx tapping screws (11).
12. When you put on the starter housing (3) on the unit, pull the starter handle (1) slightly until the starting mechanism catches.
13. Screw on the starter completely with the Torx screws (2).

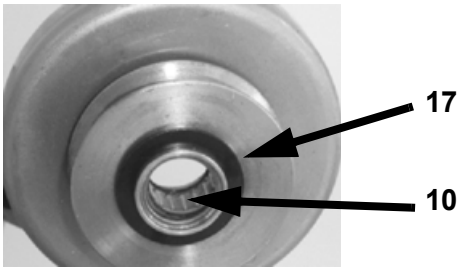
8 Assembly

8.8 Clutch

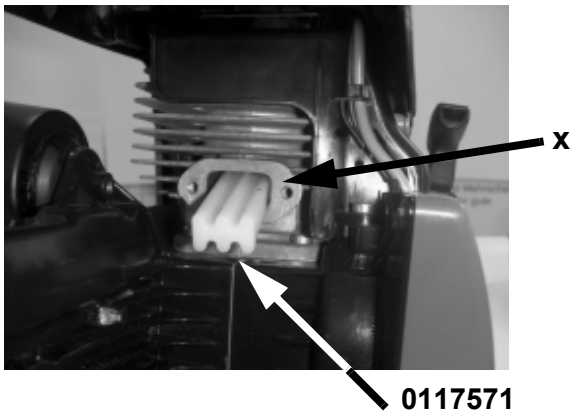


Item	Designation	Item	Designation	Item	Designation
1	Muffler	7	Crankcase half	13	V-belt
2	Torx screw	8	Snap ring	14	Cover
3	Screw	9	Clutch drum	15	Torx screw
4	Spring washer	10	Needle sleeve	16	Tension spring
5	Seal	11	Guide disc	17	Disc
6	Guard	12	Clutch	18	Stopping ring

1. Attach the snap ring (8) in the groove of the crankshaft.
2. Attach the stopping ring (18) with recess to the snap ring (8) and disc (17).
3. Grease the needle sleeve (10) with multipurpose grease.
4. Press the needle sleeve (10) into the clutch drum (9).

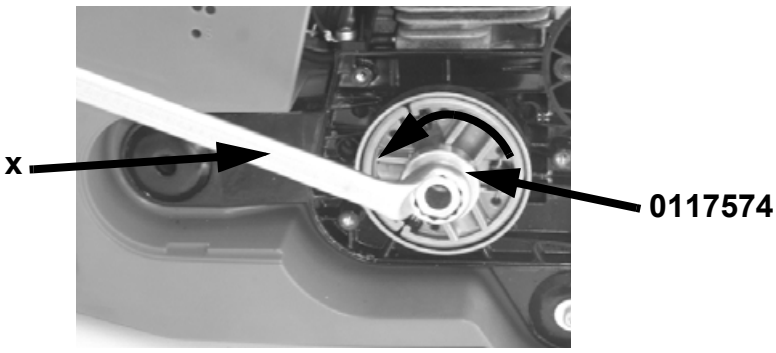


5. Press the guide disc (11) into the receptacle of the clutch drum (9).
6. Block the piston with piston stop wedge (0117571) in the exhaust port of the cylinder (x).



7. Press the clutch drum (9) onto the crankshaft.
8. Tighten the clutch (12) with installation wrench (0117574) and ring wrench (19 mm) (torque wrench setting 55 ± 0.2 Nm).

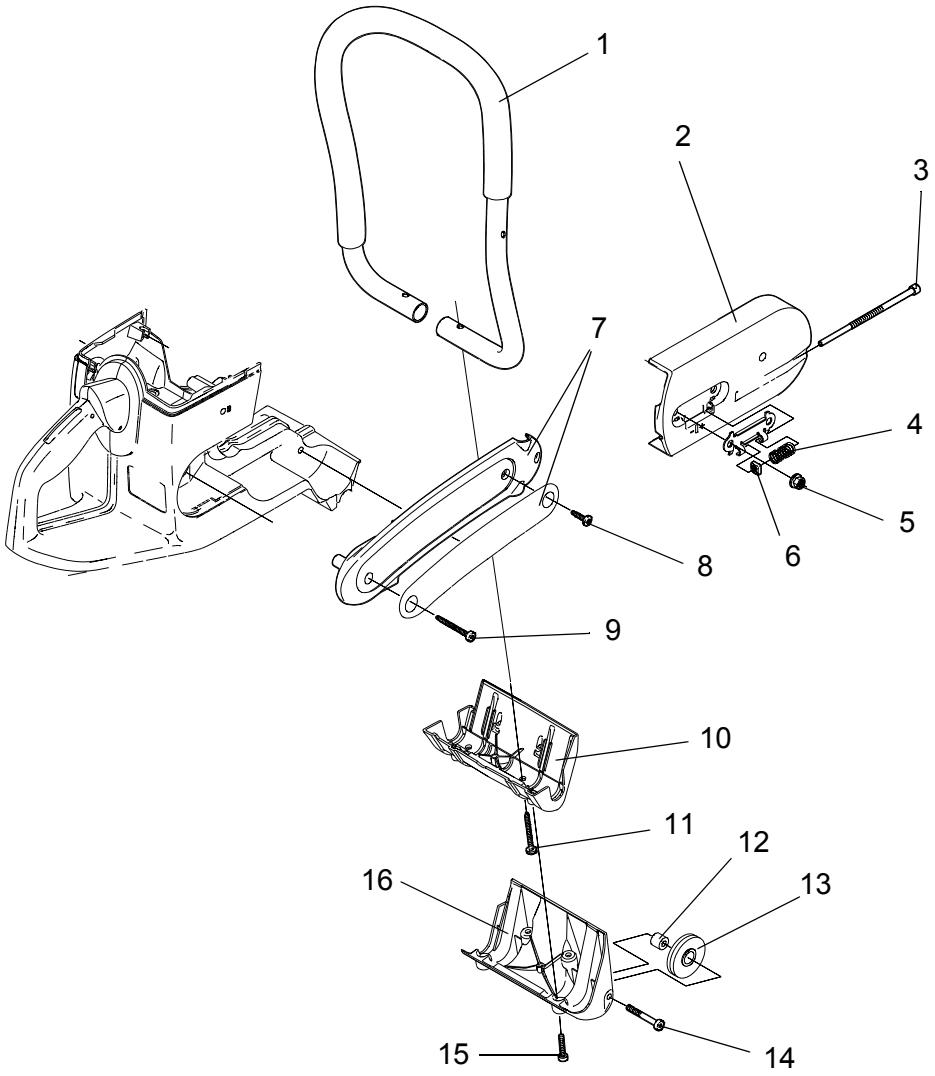
Note: Left hand thread



9. Remove the stop wedge.
10. Attach the guard (6) directly on the cylinder, then screw on the seal (5) and muffler (1) with Torx screw (2), screw (3) with disc (4) and tighten them (torque wrench setting 8 Nm).
11. Attach the V-belt (13).
12. Screw the cover (14) onto the crankcase half (7) with the Torx screws (15).
13. Tighten the V-belt, see Chapter 10.4.

8 Assembly

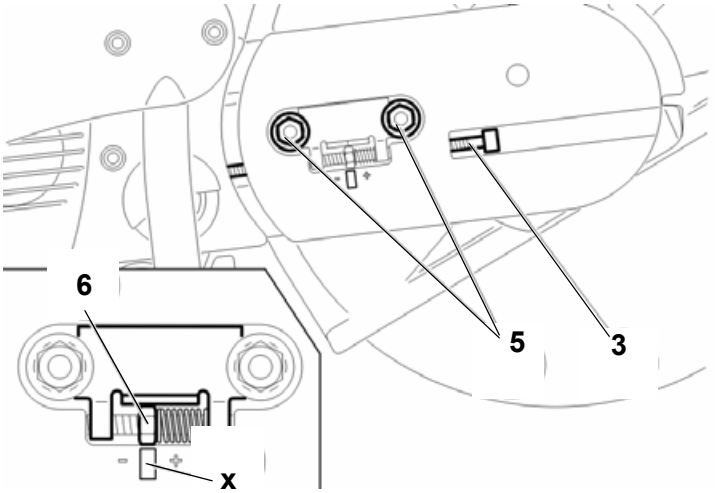
8.9 Cover/Handle



Item	Designation	Item	Designation	Item	Designation
1	Handle	7	Side brace	13	Pulley
2	Cover	8	Torx screw	14	Torx screw
3	Tension screw	9	Torx screw	15	Torx screw
4	Compression spring	10	Foot	16	Foot
5	Flanged nut	11	Torx screw		
6	Square nut	12	Bushing		

1. Screw on the bushing (12) and the pulleys (13) to the foot (16) using the Torx screw (14).
2. Fasten the handle (1) and foot (10 or 16) with Torx screw (11).
3. Fasten the side brace (7) with Torx screw (8,9).
4. Tighten the Torx screws (11,8,9) (torque wrench setting 7 ± 0.5 Nm).

5. After you mount the cutting attachment (see 8.1), attach it to the unit and tighten the nuts (5) by hand.
6. Screw in the tension screw (3) until the square nut (6) is flush with the marking (x) on the hood.
7. Tighten the nuts to 20 Nm.



9 Malfunction

Malfunction	System	Observation	Cause
Cutting disc does not start	Clutch	Engine is running	Clutch is damaged
Cutting disc rotates when engine is idling	Carburetor, clutch	Cutting disc rotates	Idle setting incorrect, clutch is blocked
Engine will not start or is hard to start	Ignition system	There is an ignition spark	Malfunction in the fuel supply, compression system, mechanical fault
		No ignition spark	STOP switch was actuated, fault or short-circuit in the cable, spark plug connector or spark plug is defective
	Fuel supply	Fuel tank is full	Choke is in the wrong position, carburetor is defective, suction head is dirty, fuel line is kinked or interrupted
	Compression system	Inside the unit	Cylinder base gasket is defective, oil seals are damaged or the piston ring is damaged
		Outside of the unit	The spark plug does not make an airtight seal
	Mechanical faults	Starter does not engage	Spring in the starter is broken, broken parts within the engine
Warm start problems	Carburetor	Fuel in tank, there is an ignition spark	Carburetor setting is incorrect
Engine starts, but goes out again immediately	Fuel supply	Fuel in the tank	Idle setting is incorrect, suction head or carburetor is dirty, tank venting is defective, fuel supply interrupted, cable is damaged, STOP switch is damaged, start valve is dirty (happy start)
Insufficient power	This may affect several systems	Unit is idling	Air filter is dirty, carburetor setting is incorrect, muffler is clogged, exhaust port in the cylinder is clogged

9 Malfunction

10 Maintenance

10.1 Maintenance schedule

Users of cut-off saws are only permitted to carry out the maintenance and care procedures outlined in this repair manual. All other procedures may only be carried out by a Wacker service station.

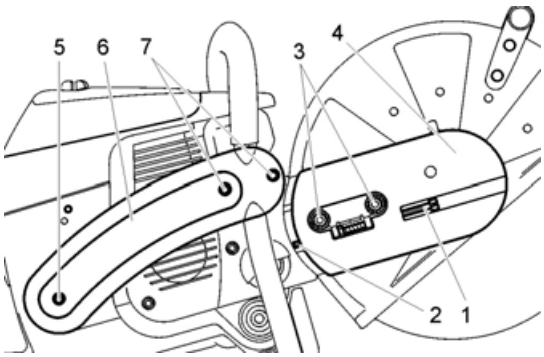
Component	Maintenance work	Maintenance interval
Entire cut-off saw	Clean the outside and check for damage. If damage is discovered, have it repair by qualified personnel immediately	General instructions
Cutting disc, clutch	Check on a regular basis for signs of damage and wear	
Protective hood	Clean, check position	
Cutting disc	Check for damage and whether the correct cutting disc is mounted for the application at hand	Each time before startup
V-belt	Check the V-belt tension	
Multifunction switch, safety lock button, throttle lever	Functional check	
Fuel cap	Check for leakage	
Prefilter	Clean (replace after every 20 hours of operation)	Daily
Idle speed	Check (cutting disc must not rotate)	
Starter housing	Clean to ensure a proper flow of cooling air	Weekly
Starter rope	Check for damage	
V-belt	Check for signs of damage and wear	
Air filter cartridge	Clean (replace after every 100 hours of operation)	
Spark plug	Check and replace as needed	
Muffler	Check it is clogged, check that the screws are tight	
Suction head	Replace	Quarterly
Fuel tank	Clean	Quarterly
Bearing, clutch drum	Clean and regrease	Quarterly

Component	Maintenance work	Maintenance interval
Entire cut-off saw	Clean the outside and check for damage. If damage is discovered, have it repair by qualified personnel immediately	Storage
Cutting disc	Disassemble and clean	
Fuel tank	Empty and clean	
Carburetor	Run empty	

10.2 Cleaning the protective hood

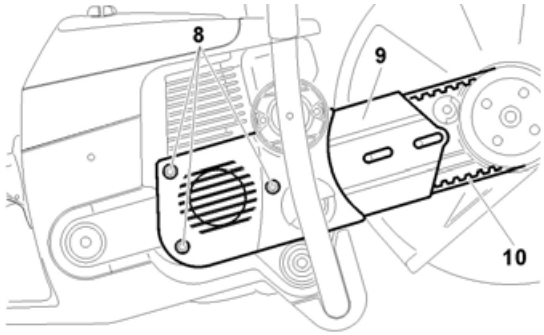
- With time, material deposits will form on the inside of the protective hood (particularly when wet cutting). Under certain circumstances, these deposits can hinder the free rotation of the cutting disc.
- Detach the cutting disc and thrust washer and remove the material deposits on the inside with a wood strip or similar tool.
- Wipe off the shaft and all disassembled parts with a clean cloth.

10.3 Replacing the V-belt



- Loosen the nuts (3).
- Loosen the tension screw (1) (counterclockwise) until you see the screw end (2) in the gap.
- Unscrew the nuts (3) and remove the cap (4).
- Unscrews the screws (5) and (7) and take off the side brace (6).

Note: Screw (5) is longer than screws (7). Observe the installation position during assembly!

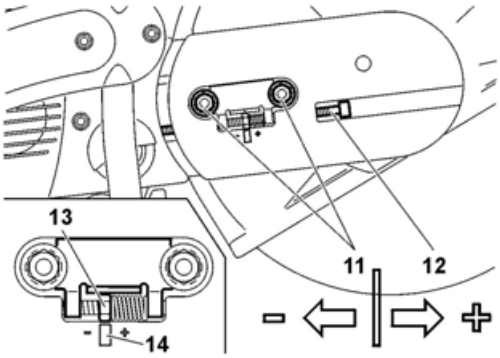


- Loosen the screws (8) and take off the crankcase cover (9).
- Remove the old V-belt (10) or any leftover V-belt material. Clean the inside of the transmission with a small brush.
- Insert the new V-belt.

Note: Mount the crankcase cover (9), the side brace (6), and the cover (4) in the reverse order.

10.4 Tightening the V-belt

Note: To obtain the maximum cutting performance at the lowest fuel consumption, it is absolutely necessary to tighten the V-belt precisely. An incorrectly tightened V-belt leads to premature wearing of the V-belt and V-belt pulley or to damage on the clutch bearing. Do not retighten the V-belt until after one hour of operation!



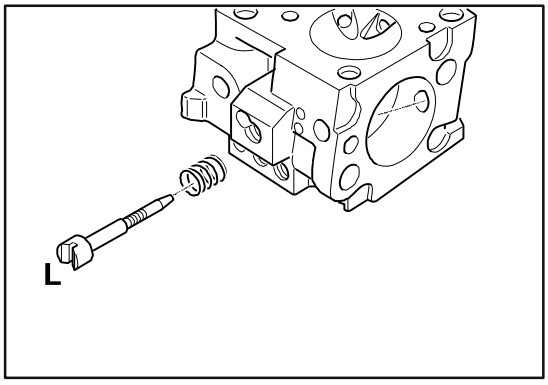
Note: To tighten the V-belt and to check the tension, you must loosen both mounting nuts (11).

- To increase the tension, turn the tension screw (12) in the clockwise direction with the combination wrench included in delivery.
- The V-belt is correctly adjusted if the marking (14) is centered between the nuts (13).

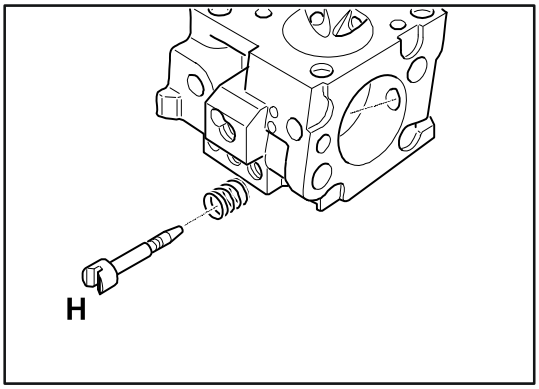
Note: After you tighten/test the V-belt, make sure to tighten the mounting nuts (11) to 30 ± 2 Nm (22 ± 1.5 ft.lbs.).

10.5 Carburetor setting

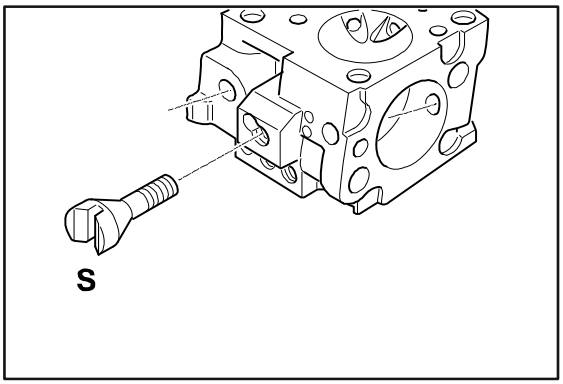
1. To make the basic setting, carefully turn the idle jet "L" inward as far as it goes. Screw the "L" jet outward according to the following table.



2. To make the basic setting, carefully turn the idle jet "H" inward as far as it goes. Then screw the "H" jet outward according to the following table.



3. Use the stop screw "S" for the choke to set the engine's idle speed.
4. The cutting disc rotates: Screw the "S" screw outward.
5. Engines goes out: Turn "S" inward.



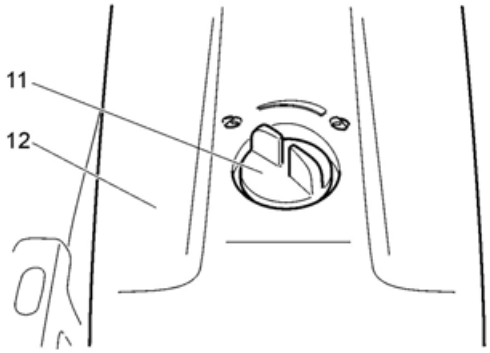
Setting	BTS 930 L3 BTS 935 L3	BTS 1030 L3 BTS 1035 L3
H adjusting screw	1 1/4th of a revolution outward	1 1/4th of a revolution outward
L adjusting screw	1 1/4th of a revolution outward	1 1/4th of a revolution outward
S adjusting screw	Cutting disc must not rotate	Cutting disc must not rotate

Due to the exhaust emission standards currently in effect, the L and H adjusting screws of the unit are not accessible from the outside. After they were set at the factory, these holes were sealed off with plugs. This prevents end customers from making any unauthorized changes to the setting. To set the carburetor, you must first disassemble it. The end customer can still set the S stop screw in accordance with the operator's manual.

If the cutting disc always rotates, check the clutch drum, clutch segments, and clutch springs.

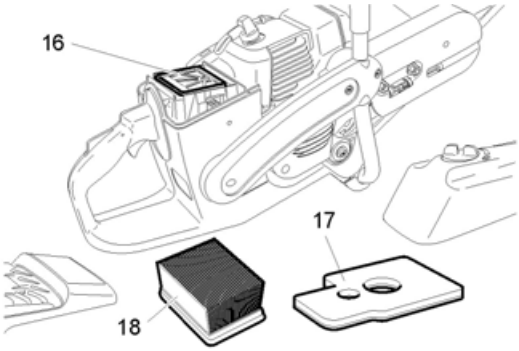
Note: It is not possible to set the H adjusting screw by checking the maximum engine speed, since the unit has a maximum rpm limitation built in the ignition module. The setting of the H adjusting screw must not fall below the minimum setting to prevent damage to the piston and cylinder caused by a too lean fuel mixture in the engine.

10.6 Cleaning/Changing the air filter



- Turn the cover lock (11) to the "unlocked" position and carefully remove the filter cover (12).
- Two sealing rings (15) are located between the filter cover (12) and the hood (14).

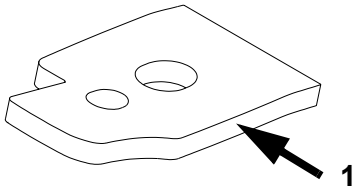
- Loosen the screws (13) and take off the hood (14).
- Clean the sealing rings (15) using a small brush and check for signs of damage.

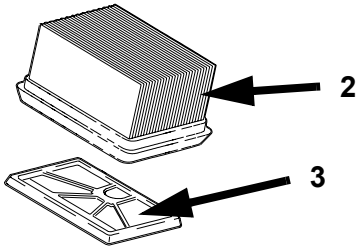


- Take the prefilter (17) out of the filter cover.
- Pull the air filter cartridge (18) out of the hood.
- Take the internal filter (16) off the suction head.

Note: Protect the carburetor to prevent dirt from falling into it!

- Put the multifunction switch in the "Choke" position or cover the carburetor with a clean cloth.





1. Prefilter (foam) and internal filter.
   - Wash out the dirty prefilter (1) and internal filter (3) in warm soap water using household dish washing detergent. Allow the prefilter (1) and internal filter (3) to completely dry.

Note: The prefilter (1) must be cleaned daily; if an unusual amount of dust is produced, several times a day. Renew the prefilter after ever 20 hours of operation at the latest.

   - To increase the filtering performance, you can spray the prefilter (1) with air filter oil. Before you apply the air filter oil, make sure to carefully clean the filter with the air filter cleaner. Observe the manufacturer's instructions at all times.

2. Air filter cartridge (paper cartridge)
   - The air filter cartridge (2) filters the intake air through fine paper filter lamella. Thus never wash out the cartridge. Clean the air filter cartridge (2) once a week.
   - Expand the lamella of the air filter cartridge (2) slightly, lay it on a clean pad and carefully tap against it.
   - Replace the air filter cartridge (2) after every 100 hours of operation. Replace it immediately if you notice a drop in power, a drop in engine speed or smoke in the exhaust fumes.

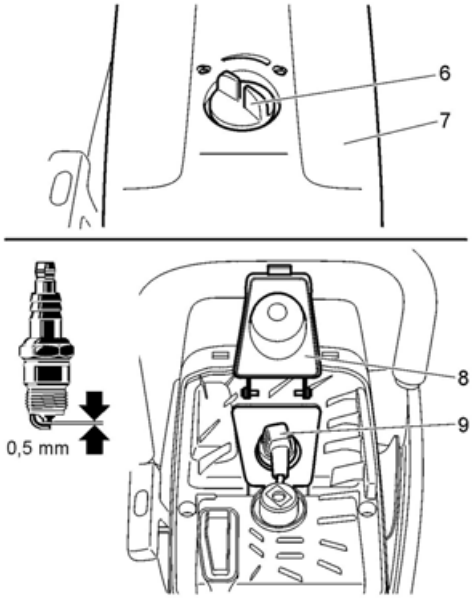
CAUTION
Never clean the air filter with compressed air! Compressed air destroys the filter material and reduces the filtering capacity for fine dirt particles considerably! Replace a damaged air filter immediately! Torn pieces of fabric and large dirt particles can destroy the engine.

10.7 Replacing the spark plug

- The spark plug must be replaced if the ceramic insulator is damaged, or if the spark plug electrodes are severely burned, very dirty or oily.

DANGER
Do not touch the spark plug or spark plug connector while the engine is running (high voltage).
Carry out maintenance work only when the engine is off.
Hot engine can cause burns. Wear protective gloves!

Note: Use only BOSCH WSR 6F, CHAMPION RCJ-6Y or NGK BPMR 7A spark plugs as replacements.
The spark plug air gap must be 0.5 mm (0.020").
Using unapproved spark plugs can damage the ignition system.
Torque for the spark plug 25 Nm ± 2.5



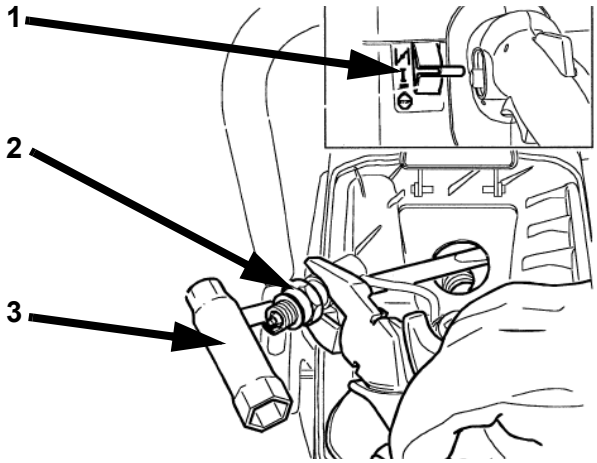
- Turn the cover lock (6) to the "unlocked" position and carefully remove the filter cover (7).
- Lift up the spark plug cover (8). Pull off the spark plug terminal cap (9) from the spark plug. Remove the spark plug with the combination wrench included in delivery.

Spark plug picture				
Appearance	Normal view	Deposits	Overheating	Carbon deposits
Cause	Proper spark plug Good combustion	Poor quality, material wear	Incorrect thermal value	Incorrect spark plug Incorrect thermal value

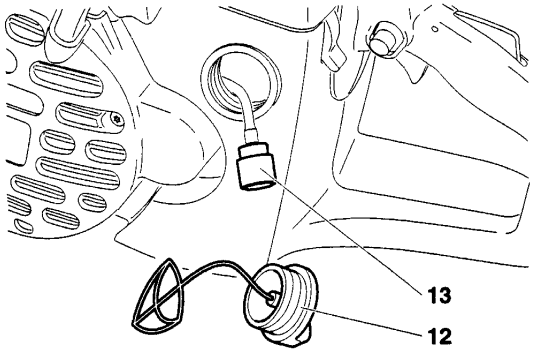
1. Ignition test
   - Insert the combination wrench (3) between the hood and cylinder, as shown in the figure.

CAUTION
Do not insert the wrench into the spark plug hole; just make contact with the cylinder (otherwise you may damage the engine).

- Press the unscrewed spark plug (2), with the spark plug terminal cap firmly attached, against the wrench using insulated pliers (away from the spark plug hole!).
- Press the multifunction switch (1) to the "I" position.
- Pull out the starter rope firmly.
- If the spark plug is functioning properly, you must see a spark plug between the electrodes.



10.8 Replacing the suction head



- The felt filter (13) of the suction head can become clogged during operation. To ensure an unrestricted flow of fuel to the carburetor, the suction head should be replaced about every 3 months.
- Unscrew the fuel tank cap (12), pull the retainer out of the tank opening.
- Empty the tank.
- To change it, pull the suction head through the tank cap opening using a wire hook.

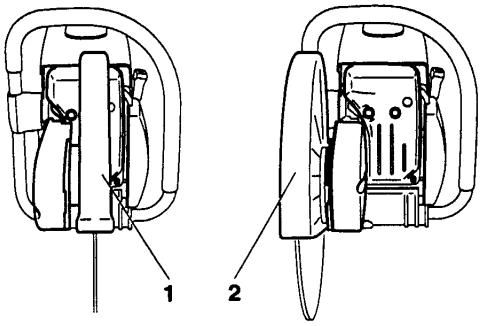
DANGER
Avoid skin and eye contact with mineral products!

10.9 Replacing the starter rope

- See Chapter 8.7 Assembling the recoil starter.

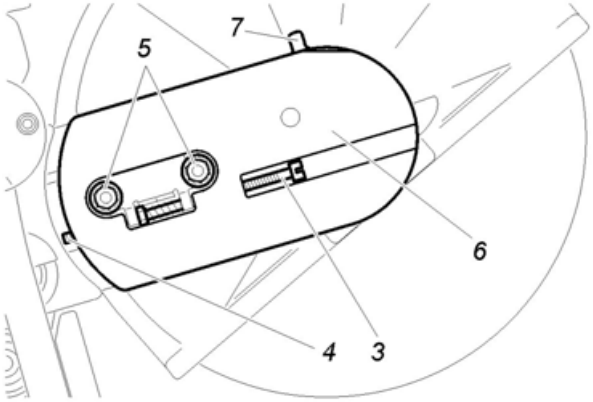
10.10 Miscellaneous

1. Cutting attachment in the center/outer position

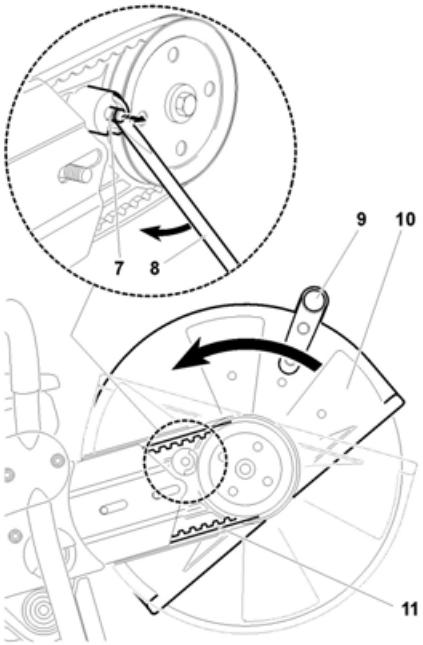


Note: The cutting attachment is mounted at the factory for operation in the center position (1). The cutting attachment can be mounted in the outer position (2) to maneuver around obstacles that are very close to the cutting line (for curbs, or brick walls). Use the outer position for guiding the cut-off saw by hand only for the work at hand. Afterwards, mount the cutting attachment back to the center position. A cut-off saw with the cutting attachment in the center position has a better center of gravity, which helps prevent early fatigue.

2. Remounting the cutting attachment



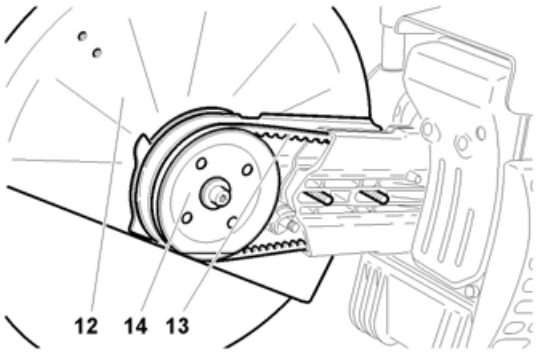
- Loosen the nuts (5).
- Loosen the tension screw (3) (counterclockwise direction) until you see the screw end (4) in the gap. Unscrew the nuts (5) and remove the cap (6).



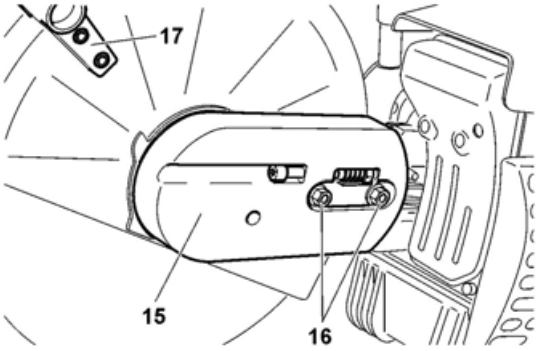
- Pry out the stop pin (7) with the combination wrench (8) far enough, as shown in the figure, so that you are able to turn the protective hood (10).

Note: Once the stop pin (7, Fig. page 104) has been pulled out, the rotary stop (7) is deactivated. This makes it possible to turn the protective hood (10) beyond the rotary stop (7).

- Unscrew the handle (9) and turn the protective hood (10), as shown in the figure.
- Detach the V-belt (11) and remove the cutting attachment.



- Press the cutting attachment (12) to the outer position against the gear arm receptacle.
- Guide the V-belt (13) over the V-belt pulley (14).



- Place the cover (15) on top.
- Screw on the nuts (16) and tighten by hand.
- Tighten the V-belt, see Chapter "Tightening the V-belt/Checking the tension."
- Tighten the nuts (16) securely with the combination wrench.

CAUTION
Each time you modify the cutting attachment, this will change the cutting disc's direction of rotation!
Diamond-edged discs must be mounted according to the direction of rotation!

11 Torque values

Type	8.8	8.8	10.9	10.9	12.9	12.9				
	ft lb	Nm	ft lb	Nm	ft lb	Nm	inch	Met.	inch	Met.
M3	*11	1.2	*14	1.6	*19	2.1	7/32	5.5	-	2.5
M4	*26	2.9	*36	4.1	*43	4.9	9/32	7	-	3
M5	*53	6.0	6	8.5	7	10	5/16	8	-	4
M6	7	10	10	14	13	17	-	10	-	5
M8	18	25	26	35	30	41	1/2	13	-	6
M10	36	49	51	69	61	83	11/16	17	-	8
M12	63	86	88	120	107	145	3/4	19	-	10
M14	99	135	140	190	169	230	7/8	22	-	12
M16	155	210	217	295	262	355	15/16	24	-	14
M18	214	290	298	405	357	485	1-1/16	27	-	14
M20	302	410	427	580	508	690	1-1/4	30	-	17

* = in lb

Type	SAE 5		SAE 8							
	ft lb	Nm	ft lb	Nm	inch	Met.	ft lb	Nm	inch	Met.
No. 4	*6	0.7	*9	1.0	1/4	-	*12	1.4	3/32	-
No. 6	*12	1.4	*17	1.9	5/16	8	*21	2.4	7/64	-
No. 8	*22	2.5	*31	3.5	11/32	9	*42	4.7	9/64	-
No. 10	*32	3.6	*45	5.1	3/8	-	*60	6.8	5/32	-
1/4	6	8	9	12	7/16	-	12	16	3/16	-
5/16	13	18	19	26	1/2	13	24	33	1/4	-
3/8	23	31	33	45	9/16	-	43	58	5/16	-
7/16	37	50	52	71	5/8	16	69	94	3/8	-
1/2	57	77	80	109	3/4	19	105	142	3/8	-
9/16	82	111	115	156	13/16	-	158	214	-	-
5/8	112	152	159	216	15/16	24	195	265	1/2	-
3/4	200	271	282	383	1-1/8	-	353	479	5/8	-

1 ft lb = 1.357 Nm

1 inch = 25.4 mm

11 Torque values